WHY DON'T MORE CIOs BECOME CEOs?
Thornton A. May says many CIOs have the right stuff to move into the top spot. **PAGE 22**

GENUINE CONCERNS
Microsoft is finding, and fighting, phony copies of Vista and Office 2007. **PAGE 8**

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BRIAN STAUFFER ILLUSTRATION

A Peek Inside DARPA

Researchers at the Defense Advanced Research Projects Agency helped invent the Internet. **So, what are they up to now?** Gary Anthes finds out.

NEWSPAPER

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Breach at TJX Puts Card Info at Risk

Network intrusion shows IT security still not up to snuff at some retailers, despite push for stronger protections

BY JAIKUMAR VIJAYAN

The TJX Companies Inc. last week disclosed a wide-ranging security breach involving credit and debit card data, providing fresh evidence that IT security remains fragile at some retailers despite attempts by credit card companies to get them to better protect their data.

Framingham, Mass.-based TJX said an "unauthorized intruder" gained access to its systems in mid-December and may have made off with the card data of customers in the U.S., Canada and Puerto Rico, as well as the U.K. and Ireland. The retailer didn't disclose the number of shoppers that may have been affected by the breach, saying that the full extent of the data theft "is not yet known."

TJX, which owns retail chains such as TJ Maxx, Marshalls and HomeGoods, has since hired both IBM and General Dynamics Corp. to help it evaluate the extent of the data compromises and implement unspecified security upgrades.

ONLINE
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At least some of the stolen information appears to have been so-called Track 2 data taken from the magnetic stripes on the back of credit and debit cards, said Benson Bolling, assistant vice president of lending at the Alabama Credit Union in Tuscaloosa.

The credit union is recalling and replacing about 2,900 Visa debit and credit cards after having received multiple alerts last week from Visa U.S.A. Inc. about card information — including Track 2 data — being compromised in a retail breach. The alerts didn't identify the retailer involved in the breach, Bolling said.

Track 2 data includes account numbers, expiration dates and encrypted personal identification numbers, plus other information that card-issuing banks can include at

TJX Breach, page 45

Feds Delay Database for Money Transfer Records

Proposed antiterrorism project would take until 2010 to finish, Treasury says

BY GRANT GROSS

A proposed government database that would collect information about hundreds of millions of money transfers flowing into and out of the U.S. won't be ready by the original target date of late this year — by a wide margin.

According to a report to Congress that was released last week by the U.S. Department of the Treasury, the plan to develop a database to monitor cross-border electronic funds transfers — which is aimed at cutting off potential funding sources for terrorists — is technically feasible.

> There is a lot for the government to appreciate [in] the technical challenges here

But the agency's Financial Crimes Enforcement Network unit, known as FinCEN, said in the report that it doesn't think the database could be put into use before March 2010. FinCEN proposed an incremental development process that would include conducting a complete cost-benefit analysis with representatives from the financial services industry and law enforcement agencies over the next 12 months.

It also promised to address all technical capacity and data privacy concerns during the same time frame, giving government officials a "foun-

Database, page 16

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What's the ROI for Moving to Vista?
OPERATING SYSTEMS: Tom Pisello examines initial ROI research and modeling on the business case for Vista. Bottom line: IT labor savings alone can't make the business case. www.computerworld.com/software

Online Office Suites: The Winner Is Clear
NETWORKING: In our hands-on review, one free Web-based Office alternative stands head and shoulders above the rest.
www.computerworld.com/networking

Your Top Challenges In Data Protection
STORAGE: Columnist John Webster outlines some key issues facing IT administrators.
www.computerworld.com/storage

The Home Network Of the Future
NETWORKING: With distributed storage, servers, and a mixture of wired and wireless, the future home network as shown at the Consumer Electronics Show looks a lot like the enterprise network of the present.
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How to Pimp Your Ride, Computerworld Style
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AT DEADLINE

Microsoft Reissues Excel Security Patch

Microsoft Corp. has reissued an Excel security patch published earlier this month, after the update prevented some Excel 2000 users from opening documents. The problem affects versions of Excel 2000 that are set to support certain Asian languages by default. The MS07-002 update fixes five Excel flaws and is rated "critical" by Microsoft. It was one of four security updates Microsoft issued on Jan. 9.

OPTi Charges Apple With Patent Theft

OPTi Inc. has filed a lawsuit in a Texas federal court alleging that Apple Inc. has violated three OPTi patents on what it calls "predictive snooping of cache memory for master-initiated accesses." OPTi says Apple uses its predictive snooping technology without permission in its Macintosh desktop, notebook and server hardware. OPTi licenses its semiconductor technology to PC manufacturers and semiconductor device makers.

IBM Cites Software Sales for Profit Rise

IBM, citing an 18% increase in sales in its middleware products group, which includes WebSphere, Information Management, Tivoli, Lotus and Rational tools, reported an 11.1% climb in fourth-quarter profits on a sales hike of 7.5%.

IBM BY THE NUMBERS

Q4 '06	[illegible]	$3.5B
Q4 '05	[illegible]	$3.2B

Zend Names Former BMC Exec CEO

Harold Goldberg, former senior vice president of worldwide marketing at BMC Software Inc., has been named CEO of Zend Technologies Inc. Goldberg replaces company co-founder Doron Gerstel, who left Zend last year to move to Israel. David Banks had served as the company's interim chief operating officer and led Zend's search for a new CEO.

All U.S. Doctors Offered Free Prescribing Software

Some skeptical of $100M initiative by insurers, health care firms, vendors

BY HEATHER HAVENSTEIN

A COALITION OF technology companies, health care providers and insurance firms last week unveiled a $100 million program through which all U.S. physicians will be offered free access to software that automates the prescribing of medication.

The National ePrescribing Patient Safety Initiative was created to eliminate some of the cost barriers that commonly prevent physicians from using electronic prescribing software, according to members of the coalition.

Prescribing software is used to help eliminate medication errors commonly caused by sloppy handwriting on prescription documents or failure to check for adverse drug reactions and patient allergies.

Despite agreeing that the software would help them, some doctors said the coalition needs to do more than simply offer it without charge.

Steven Waldren, a physician and director of the Center for Health Information Technology at the American Academy of Family Physicians in Leawood, Kan., said that many doctors want to know who can access the data and whether the coalition plans to sell the information to pharmaceutical or health insurance firms.

In addition, while he agreed that the coalition's plan would ease the cost of using e-prescribing software, he contended that it doesn't overcome the major roadblock to its widespread use — workflow issues.

WALDREN Doctors' lack of tech resources could hamper e-prescribing adoption

Medical practices that don't have electronic medical record technology likely also won't have Internet access in examining rooms, where prescriptions are typically written, Waldren said.

In such cases, he suggested that a nurse or clerk would enter the information into the e-prescribing system later. That would diminish many of the software's benefits, primarily by increasing the potential for transcription errors.

Medication errors result in 8,000 to 9,000 deaths annually, said Newt Gingrich, founder of the Washington-based Center for Health Transformation.

"By definition, a paper prescription does not allow you to automatically check to see if it is [dangerous to use with] other prescriptions," Gingrich said during the unveiling of the program last week.

Rollout Plans

The program will be used to distribute eRX Now, a Web-based software package from Allscripts Healthcare Solutions Inc. in Chicago. The application is already used by 20,000 physicians to write electronic prescriptions, according to the company. The software automatically checks a prescription for patient allergies or potential interactions with other medications used before sending the order to a pharmacy, Allscripts said.

ERX Now typically costs physicians between $550 and $1,500 annually, whether they buy a copy of the software or use it as a service, said Allscripts CEO Glen Tullman.

Allscripts and Dell Inc. are the lead sponsors of the e-prescribing initiative. Other technology sponsors include Cisco Systems Inc., Fujitsu Computers of America Inc., Google Inc., Microsoft Corp., Sprint Nextel Corp., SureScripts LLC and Wolters Kluwer Health Inc. Each will be contributing undisclosed sums to help pay for the project — which is estimated to cost more than $100 million over the next five years.

Aetna Inc., Horizon Blue Cross Blue Shield of New Jersey and Wellpoint Inc. have agreed to offer various incentives to physicians to encourage them to use the software, Tullman said. The three insurers also agreed to pay fees to the coalition for each transaction their members make with the system, he said.

Today, fewer than one in five physicians use e-prescribing software, mostly because of concerns about the cost of the software, installation challenges and training needs, said Nancy Dickey, president of the Health Science Center and vice chancellor for health affairs at the Texas A&M University System.

Scott Tiazkun, an analyst at IDC, noted that the success of the program will depend on how easy it is for doctors to access and use the application, "and also if there is some pressure from hospital administrators for them to use it." ▸

Wellpoint Learns From Earlier E-prescribing Failure

WELLPOINT, a participant in the National ePrescribing Patient Safety Initiative, this week is set to disclose plans for a pilot electronic-prescribing project in Ohio.

This and other recent efforts by the Indianapolis-based insurer, which insures 34 million people through Blue Cross and/or Blue Shield plans in 14 states, have been largely shaped by a previous, unsuccessful foray into e-prescribing.

The earlier, $42 million project, launched in 2004, called for physicians to receive a free PC or handheld device along with access to e-prescribing software.

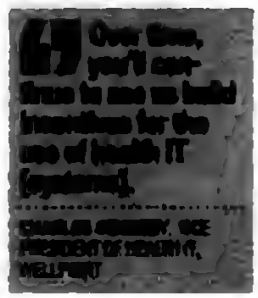
Despite the giveaway, "we didn't see the [e-prescribing] volume we would have hoped for," said Charles Kennedy, Wellpoint's vice president of health IT. "Just giving away the service did not cause large numbers of physicians to want to use it."

In its latest efforts, including the Ohio pilot to be launched today, Wellpoint is offering incentives for physicians to use the software, he said.

For example, doctors get a 1% increase in reimbursement rates for using e-prescribing software. They also get a higher rate for prescribing generic drugs, which the software can recommend, Kennedy added.

"Over time, you'll continue to see us build incentives for the use of health IT [systems]," he said.

Wellpoint subsidiary Anthem Blue Cross and Blue Shield, also based in Indianapolis, will unveil the pilot e-prescribing project in two Ohio communities. The aim is to reduce medication errors, the insurer said.



Anthem said it will provide 100 physicians in the Dayton and Warren-Youngstown areas with free hardware and online access to software from RxHub LLC in St. Paul, Minn., that provides access to drug insurance coverage data.

Anthem said the program, which will also provide incentives to participating physicians, was prompted by its relationship with client General Motors Corp., which has numerous employees and retirees in the area.

– HEATHER HAVENSTEIN

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The Right Techno

Microsoft Steps Up Efforts To Ensure Users Are Legit

Vendor tries to quash illicit uses of license keys

BY CAROL SLIWA

Microsoft Corp. today will launch an education campaign on the risks of using counterfeit, pirated and mislicensed software. The "Genuine Fact Files" campaign comes one week before the Jan. 29 general release of Windows Vista, which includes a set of tools called the Software Protection Platform (SPP) that can put unvalidated copies of the software into a reduced-functionality mode.

In an interview with Computerworld *last week,* **Cori Hartje,** *director of Microsoft's Genuine Software Initiative, said the company has already downloaded pirated copies of Vista and Office 2007 in the U.S. and has found phony discs in South America, Asia and Europe. For example, during a December trip to São Paulo, Brazil, she spotted a street vendor selling counterfeit CDs of both products. Hartje also discussed Microsoft's efforts — via SPP and its earlier Windows Genuine Advantage (WGA) program — to ensure that users run authentic software. Excerpts from the interview follow:*

A genuine copy of Windows (left) can be difficult to distinguish from an inauthentic one (right). Microsoft discovered the phony package during a government-assisted raid of a U.S. warehouse filled with a variety of counterfeit products.

What's the most surprising thing you learned after Microsoft instituted the WGA program in mid-2005? The wild spread of leaked and stolen volume license keys. I was absolutely shocked at how fast a key that was just put on somebody's blog on Google or Yahoo and was searched could make it around the world in eight days onto [illegitimate] products. . . . A tech [worker] had a personal space on his own server that was exposed to the public. It was just hidden files. It wasn't indexed. But he'd put keys in there, just for safeguarding. Somehow, searching for keys, somebody found [one]. A month later, there were over 200,000 users of it.

Have you found any cases of IT workers deliberately contributing to the problem by selling or sending license keys to counterfeiters? I don't have any evidence of any particular person [doing that]. Here's the scenario that I think happens. Somebody says, "I need a key." An IT pro has a key and gives that key to somebody. All of a sudden, that key ends up on a blog. I've personally seen them on blogs. I don't know why those people would think to put them there, but they did. Boom. Wildfire. And the bad guys, the counterfeiters, are looking for those.

Because a volume key could activate an unlimited number of copies of Windows XP? Right. And they didn't know it, either. Somehow, it would get out. So that technology needed to be changed, and that's why we have SPP.

Was the problem with volume license keys the main driver for developing SPP? Volume licensing keys are one of the most-used methodologies for counterfeiting. But SPP has lots of other features. It includes volume activation, antitampering technologies and anti-reverse-engineering technologies. It enables the validation check. And it also enables genuine users to easily get anywhere, anytime upgrades for Vista.

Some users with legitimate copies of Windows encountered validation problems with WGA. Do you think concerns that there could be similar problems with SPP are valid? I haven't seen it yet. I acknowledge that people are always wondering if there will be compatibility issues, but I don't have any to share with you.

Given the scope of the counterfeiting problem you're seeing, do you ever think that licensing might not be the best model for software, and that the maintenance and support model open-source vendors use might make more sense? It's a debate for economists as to what the best model is long term. Certainly, we believe that products have value. We charge for them. I think what you're saying is that we haven't also done enough to protect the [software]. Engineering changes that we have done will hopefully protect it. It has been just really too easy to copy. ▸

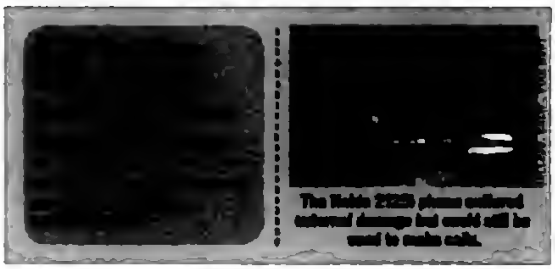
Investigator Clears Cell Phone of Blame for Starting Fire

BY MATT HAMBLEN

An investigator for the Vallejo, Calif., fire department last week reversed an earlier finding and said a cell phone wasn't the cause of a fire that critically burned a local man and damaged his apartment.

The investigator, William Tweedy, had said in a written report issued Jan. 13 that a cell phone in one of the man's pants pockets malfunctioned, igniting the fire. But on Thursday, Tweedy said the phone wasn't to blame after all, based on a test that was conducted by a Nokia Corp. engineer.

Tweedy said he called Nokia, the maker of the phone, for help with his investigation. "Their expert performed the test in front of me," he said. "The phone still works, so it's ruled out as the ignition source." The phone, a Nokia 2125i, suffered heavy external damage, but its battery wasn't affected, and the engineer was able to make a call with the device, Tweedy said.



He added that there was no evidence of a circuit board fire inside the phone and that the device couldn't have gotten hot enough to cause the fire unless it had malfunctioned. Tweedy estimated that the phone would have needed to reach about 300 degrees Fahrenheit to set the victim's pants on fire. "Originally, I thought the phone short-circuited or burned up to get hot enough to cause a fire, but that's not the case," he said.

A spokeswoman for Nokia confirmed that "in keeping with our commitment to product quality and safety," the company had sent an engineer to assist Vallejo fire officials with the investigation.

Tweedy said his investigation has been reviewed by other members of the Vallejo fire department and by an insurance investigator who also initially believed that the phone had caused the fire.

He added that he now has ruled out "everything" in the victim's apartment as a source of the fire. "Whatever caused the fire, the evidence of that thing burned up," Tweedy said.

The 59-year-old victim suffered second- and third-degree burns over 60% of his body, according to the fire department. He remained in critical condition at the UC Davis Medical Center as of Thursday, a hospital spokeswoman said.

The victim has retained an attorney, said Tweedy, who noted that the man had a blood alcohol level of .325 when tested after the fire. ▸

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BRIEFS

IBM Unveils Low-End Line of Disk Arrays

IBM has upgraded its entry-level disk arrays targeting small to midsize businesses, adding features that match those offered on more expensive enterprise-level systems. The new IBM DS3000 disk array line replaces the DS300 and DS400 models. The series includes the DS3200 for $4,495 and the DS3400 for $6,495. The DS3200 uses the SCSI connectivity standard, while the DS3400 uses Fibre Channel.

Intel Profits Drop In Third Quarter

Intel Corp. reported that profits plunged 39% in the fourth quarter on a revenue decline of 5%. The results come in the midst of a corporate reorganization that has included layoffs.

		PROFIT
Q4 '06	$9.7B	$1.5B
Q4 '05	$10.2B	$2.5B

Cognos Acquires BI Tool Maker

Cognos Inc. has purchased privately held Celequest Corp., a business intelligence company with expertise in real-time operational dashboards, for an undisclosed sum. Cognos officials said that they expect the acquisition will help the company attract more midmarket and departmental customers. The real-time Celequest dashboards are complementary to the historical and strategic dashboards in the Cognos 8 BI software, the vendor said.

SAP Unveils New All-in-One Version

SAP AG has unveiled a new version of its All-in-One business software targeted at midsize companies. The new version adds simple, PC-like interfaces and integrated reporting capabilities, the company said. The release is a scaled-down version of the company's latest mySAP ERP 2005 software.

ON THE MARK

HOT TECHNOLOGY TRENDS, NEW PRODUCT NEWS AND INDUSTRY BUZZ BY MARK HALL

'Eighty-six' Risky End Users From . . .

. . . your network when they violate usage policies. You probably know that being eighty-sixed from a drinking establishment means getting tossed out on your keister for bad behavior. Banished inebriates can, of course, stumble to the next-closest saloon. But your users won't be able to find different ways to get around corporate Internet access policies if you install tools from 8e6 Technologies Inc., claims Paul Myer, president of the Orange, Calif.-based security vendor. Myer says the company's data-packet analysis appliances can distinguish whether people are using Google to legitimately search for information or to inappropriately send Gmail messages. 8e6's software reads the electronic signature of the data types being transmitted and can apply rules to network traffic in real time, he says. And by midyear, the company plans to add the ability to fingerprint your own content and apply policies on how it can be moved around your network. The appliances can also oversee the behavior of remote and mobile workers through a "Y routing" technique that's applied to Web page requests via a tiny bit of client software installed on laptops, Myer says. The requests go simultaneously to the Web site and to your 8e6 appliance for policy review. Any user misbehavior is consolidated into the Threat Analysis Reporter tool, which was released last week. The appliances start at $4,995, plus an aonual fee of $8 to $15 per user, depending on the level of monitoring you need. Myer suggests you begin planning for March Madness now, given that the NCAA basketball tournament will again be broadcast on the Web. Last year, he says, companies saw as much as one-fifth of their network bandwidth chewed up by hoops watchers.

Give bad Web behavior the boot, says MYER

Collaboration tools go totally . . .

. . . **tubular.** Boston-based Adesso Systems Inc. has released a beta version of Tubes, a free collaboration tool for Windows users. Steve Chazin, Adesso's vice president of marketing, says each Tubes icon can represent anything users want: people, projects — even devices. You set policies on who can access your Tubes and what their privileges are. You can drag and drop files into Tubes, and the software will update the documents when they're changed. Adesso stores the information on its servers, and all data is scanned for viruses and encrypted while in transit. Chazin claims that Tubes is ideal for ad hoc work teams. Adesso will begin offering fee-based premium services for business users this quarter. Linux and Mac versions are also in the works, Chazin says.

Go down Tubes to collaborate.

Use one phone number for all . . .

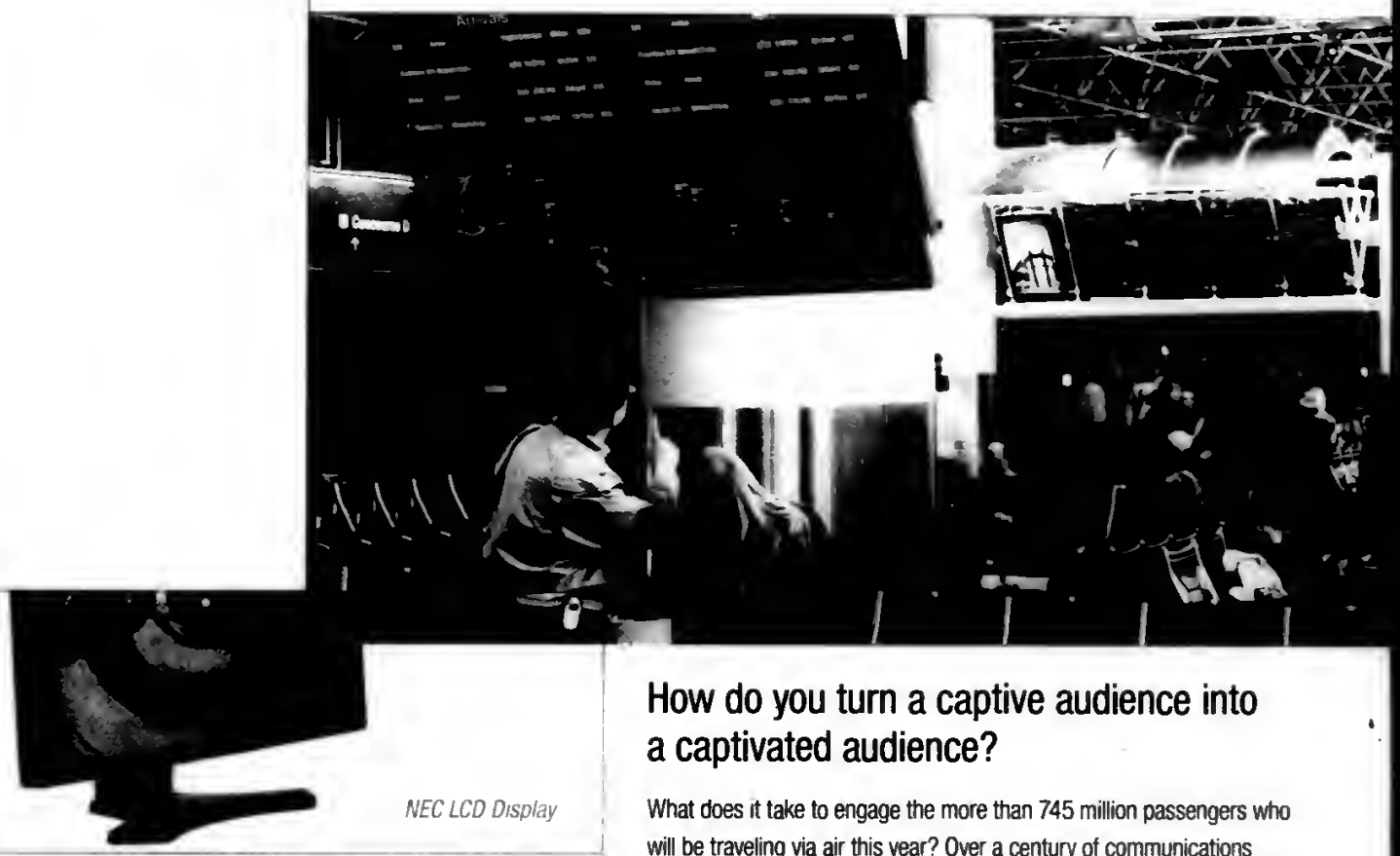
. . . **your calls, on all devices.** That's the proposition being made by GrandCentral Communications Inc. in Fremont, Calif. CEO Craig Walker says users can register up to six phone lines — mobile, land line or voice over IP — with his company's free onlioe service, then choose one number to give to family, friends and business associates. When they dial it, all your devices will ring at once. And when a call comes in, you can choose one of four options: take the call, send it to voice mail, listen to incoming voice-mail messages in real time, or accept and record the call. (The last feature requires that users be aware of the different laws U.S. states have on recording conversations.) GrandCentral's service screens first-time callers and asks them to identify themselves; after that, it identifies them to you before you choose your answer option. The service has myriad call-management features, including the ability to automatically inform certain callers that your number "is no longer in service" to ward off pesky telemarketers. Next month, Walker says, GrandCentral will roll out a $10-per-month version of the service for business users, with a "categories" feature that can be used to create custom greetings for VIP callers by individual or group.

487.5M
Mobile and land lines in the U.S. during 2006, says the CIA in The World Factbook.

Simplified GUI lets business users . . .

. . . **respond to shifts in sales metrics.** Mercado Software in Pleasanton, Calif., has released Version 4.0 of its namesake software for online retailers. The new release includes connectors to corporate data sources, such as SAP and Siebel apps, says Randi Barshack, Mercado's vice president of marketing. And she claims that the software's updated Merchandising Console enables nontechnical users to react quickly to changes in, say, inventory levels by immediately posting new online promotions. Last month, Mercado received $11.5 million in venture capital funding, some of which will be poured into making the software's graphical user interface even simpler, Barshack says. A software-as-a-service version of Mercado's technology starts at $3,500. The company also sells an on-premises version for those who want to run the software on their own systems. ▸

$26.4B
Total 2006 online holiday sales, according to comScore Networks.



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Users Wary of HP Plan to Boost Software Business

HP hardware users say they want BI products from software vendors

BY HEATHER HAVENSTEIN

HEWLETT-PACKARD Co. last week added a new business unit in its HP Software division that will oversee the company's business intelligence and information management offerings.

The BI arm of the new Business Information Optimization unit will sell internally developed data warehousing technology, said Ben Barnes, the newly appointed vice president and general manager of the BI group.

HP has yet to hire an executive to lead the unit's information management operation, officials said.

Some HP users said they are dubious about buying key software products and services from a company that specializes in developing and supporting hardware products.

'Not Their Forte'

Ashok Bakhshi, IT director at Schindler Elevator Corp. in Morristown, N.J., said that his company "would not normally go to HP for that type of support. It is not their forte."

Over the next several years, Schindler plans to deploy an enterprise data warehouse from SAP AG, Bakhshi said. Schindler uses ERP software from SAP and hardware from HP, he said.

He added that any proposal from HP to use its data warehouse software "would have to be extremely compelling from a performance and business-value standpoint before we would make the switch out of SAP."

Bill Kehoe, CIO of the Washington Department of Licensing, said that the state agency has a BI project under way that is based on Microsoft Corp.'s SQL Server database software. Although the department is a big user of HP server and desktop computers, it wouldn't seriously evaluate the vendor's software before taking the time to see how HP's services compare with those of other vendors "who have more [BI or information management] experience," he said.

HP began shipping one of the unit's key products, the Neoview data warehousing offering, in October. Officials last week declined to name any companies other than HP itself that are using Neoview.

The technology includes an HP fault-tolerant server running the vendor's storage and database software. HP said it is using Neoview internally as part of an ongoing effort to consolidate more than 700 data marts into an enterprise data warehouse.

Not only is Neoview a "large, very scalable, very high-performance data warehouse," but its price tag is also comparable to the offerings of competing data warehouse appliance vendors, Barnes said.

Data warehouse appliances, which are available from several vendors, include combinations of high-performance hardware with database, storage and other software. The systems are generally preconfigured for specific tasks such as strategic analysis.

Barnes said that HP expects that better tapping the BI and information management market can boost its corporate revenue by expanding its business within existing accounts.

HP officials declined to provide details about the company's BI and information management product plans.

Henry Morris, an analyst at market research firm IDC, said that HP has long been involved in the BI business, because it provides servers that IT operations use to build and run data warehouses.

Morris said he expects HP to rely on partners such as Cognos Inc., Business Objects SA, SAS Institute Inc. and Hyperion Solutions Corp. for the BI tools used for reporting and analysis, unless it moves to purchase such a vendor.

"In terms of the overall solution for BI, there is much more to be gained in terms of overall revenue from services," said Morris. "Generally speaking, for every BI project, services are the most expensive [part], because expertise is in short supply."

HP's BI Push

- HP this month acquired Knightsbridge Solutions Holdings Corp., a BI and data warehouse services company.
- HP Chairman and CEO Mark Hurd hailed from NCR Corp., which included data warehousing unit Teradata.
- HP CIO Randall Mott was CIO at Wal-Mart Stores Inc., which uses a massive data warehouse.
- HP hired Ben Barnes, former head of IBM's BI solutions division and former general manager at Teradata, to lead its BI effort.

Sun Maps Two Upgrade Paths for Server Users

Vendor plans for systems based on different cores

BY PATRICK THIBODEAU

Sun Microsystems Inc. last week detailed an UltraSparc road map that describes a bright future for server workloads that can make use of multiple processor cores. But Sun's plans may pose challenges for users, especially those looking to upgrade in the next two years.

The vendor's current processor workhorses, the UltraSpare IV and IV+, will be succeeded by what Sun calls its "Rock" chip. That device will contain up to 16 cores and will be designed for database servers and other applications that require a lot of memory and number-crunching firepower, Sun said. Rock isn't due until the middle of 2008, however.

Sun hasn't said when it will stop making improvements to the UltraSpare IV+, but next summer the company plans to introduce its so-called Advanced Product Line (APL) servers. Those systems are being developed with Fujitsu Ltd. and will use a Fujitsu version of UltraSpare called Olympus.

APL will replace Sun's existing Sun Fire servers as well as Fujitsu's UltraSparc-based PrimePower hardware line.

A Matter of Timing

Whether users who need upgrades should buy APL machines or wait for Rock-based systems to appear is "a function of timing," said Marc Tremblay, senior vice president and chief architect in Sun's systems group. Customers that need an UltraSpare upgrade after next summer will probably buy an APL system if they can't wait another year, he said.

Rock "hits the midrange and high end pretty hard," Tremblay said, referring to Sun's UltraSparc-based systems. He added that Rock-based hardware won't fully replace the APL line, although he didn't provide details on the applications that might continue to require those systems.

Richard Partridge, an analyst at Ideas International Inc. in Rye Brook, N.Y., said Sun users must consider more than just timing in deciding whether to buy APL systems or wait for the Rock-based machines.

Sun is betting that by mid-2008, there will be an adequate number of parallel processing applications that will be able to take advantage of Rock's multicore design, Partridge said. But it may well turn out that many users will still need to buy the APL hardware if the applications they run can't use a large number of processor cores, he added.

By planning to continue to offer APL as well as Rock-based hardware, Sun is "recognizing that they at least need a fallback plan," Partridge said.

Kenneth Edgecombe, executive director of the High Performance Computing Virtual Laboratory in Kingston, Ontario, said he expects software vendors to ensure that their applications can work in multicore environments.

The HPCVL runs a cluster of Sun systems installed at five universities and one college in Ontario to support work being done by about 500 researchers. Users such as the virtual lab can no longer rely on increases in chip speed alone for performance improvements, said Edgecombe, adding that "The days of getting the single-chip processors that were just getting faster and faster and faster are over."

Sun's Processor Road Map

THIS YEAR:

- The APL servers, developed jointly with Fujitsu and based on its version of UltraSparc, are scheduled for release next summer.
- A second UltraSparc T1, or Niagara, processor is also due in the summer, with eight threads in each of its eight cores – double the current number of threads.
- At some point during 2007, Sun will announce end-of-life plans for the UltraSparc IV and IV+ chips.

2008:

- Sun expects to ship servers based on its 16-core Rock processor by midyear.

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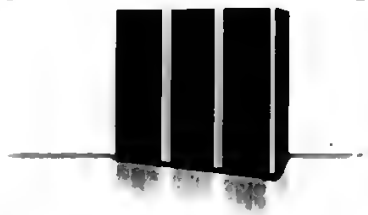

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BRIEFS

Fortify Buys Security Software Maker

Fortify Software Inc. has agreed to acquire Secure Software Inc., a McLean, Va., maker of security software tools. Financial terms of the agreement were not disclosed. The agreement calls for Fortify to gain Secure's intellectual property, capital assets and other resources. Fortify said it will offer its support and service offerings to Secure customers.

NEC Unveils Low-End Fault-Tolerant Server

NEC rolled out a single processor server that promises 99.999% uptime at a cost of just under $12,000. The Express5800/320Ma is priced less than half the $25,000 cost of the previous NEC low-end system because the company eliminated some features on the new server. The 320Ma runs Microsoft Windows 2003 Enterprise Edition and Red Hat Enterprise Linux AS4.

Seven Firms Pass Liberty Alliance Tests

Products from seven companies have passed the Liberty Alliance's latest round of conformance tests for interoperability of identity management services. Hewlett-Packard Co., Nippon Telegraph and Telephone Corp., and Symlabs Inc. successfully pitted products against ID-WSF 2.0, while CA Inc., Entr'ouvert SCOP ARL, NTT Software Corp. and LM Ericsson Telephone Co. successfully tested their products against other alliance specifications.

Cisco Revamps Software Model

Cisco Systems Inc. has unveiled a new software distribution model for its routers and switches that the company said will make it easier for managers of large networks to deploy its Internetworking Operating System and add new software features. The company also brought out a new software tool, called Cisco License Manager, that is designed to help users more easily manage large-scale networks.

BI Helping Retailers Control Inventory, Manage Finances

Software improves planning, but it can be expensive, hard to implement, users say

BY MARC L. SONGINI
NEW YORK

RETAIL COMPANIES could improve financial and supply chain planning, and thus increase profits, by using business intelligence systems, according to speakers and some attendees at the National Retail Federation 2007 conference held here last week.

Though IT officials from some retailers said BI systems remain too expensive and too hard to implement for their operations, others maintained that the benefits would likely outweigh the costs.

Specialty apparel retailer Tween Brands Inc. is in the process of replacing an analytics system that used Microsoft Excel spreadsheets and mainframe applications with an integrated system made up of products from multiple vendors, said Roy Deegan, vice president of IT solutions delivery and process engineering at the New Albany, Ohio-based retailer.

The new analytics system includes an Oracle 10g database, application server and portal; Oracle Retail Price Management software; and merchandising intelligence applications from SAS Institute Inc., all running on IBM p595 Unix servers, he said.

The project began in 2004 when the retailer launched a plan to upgrade its BI capabilities as part of an effort to boost efficiency, cut costs and create a better buying experience for customers, Deegan explained. The plan called for Tween to improve inventory planning and create "one version of the truth" for the company's financial and inventory analysts.

"When it came to the technology, we started with a clean sheet of paper," said Deegan.

The Oracle Retail Price application went live last August. The company began rolling out the SAS software last spring, and that project is ongoing, he said.

Deegan said its too early to project a specific return on investment, but Tween does expect that the rollout will lead to improved profit margins.

Kevin Stack, vice president and CIO at Jo-Ann Stores Inc., a retailer of crafting, decorating and sewing products, said his firm is holding off implementing a BI system because of the high costs and the need for extensive manpower to implement it.

The Hudson, Ohio-based company is interested in evaluating new decision-support software from SAP AG, the supplier of its ERP software. However, any implementation of the software is at least three years away, he said.

"Before we can do it and provide business value, we must make sure that the business will have [the analytical methods] infused into their processes," Stack said. "The people in the business need to understand what to do with the data and how the data impacts other parts of the organization."

Keen Footwear, a Portland, Ore.-based footwear designer and distributor, announced at the conference that it plans to roll out ERP software and a BI applicatioo and dashboard from Lawson Software Inc.

The $1 million project, slated to go live in June, will help Keen better share data and collaborate with retailers that sell its products to ensure that their stores have the right mix of footwear, said Joe Zitomer, Keen's director of operations.

The company has been growing rapidly, and its legacy system and processes couldn't handle new, more sophisticated planning requirements, he said.

The old system was a heavily customized application from LogOn Business Systems, a New York-based maker of apparel software. Managing inventory, Zitomer said, was becoming "guesswork." ▸

Online Holiday Sales Up 26% for 2006

NEW YORK

HOLIDAY SHOPPERS spent an estimated $21.7 billion online during November and December, up 26% from the same period a year earlier, according to a report from the National Retail Federation.

The Retail Sales Outlook report also found that the increase in overall holiday sales for 2006, including brick-and-mortar stores and online businesses, was about 4.4% – just under the federation's 5% growth estimate. In 2005, holiday sales overall rose 6.1%.

The report – which was presented at the annual NRF conference here last week by the Washington-based group's chief economist, Rosalind Wells – cited a slowing economy for the lackluster overall sales growth during the holiday season.

Wells predicted that online growth will continue at double-digit percentages during 2007, but she wouldn't say whether she expects the increase to be higher than it was in 2006.

However, she noted, "I can't imagine a falling off [in 2007] to any substantial degree."

Although Internet sales will continue to grow, they won't entirely eclipse in-store shopping, predicted Kevin Stack, vice president and CIO at Jo-Ann Stores, a retailer of fabrics and sewing materials.

"I think there will always be both," he said. "In our business, people will always want to touch products, specifically in our business – fabrics. Not all products are applicable to buying online."

– MARC L. SONGINI

> **In our business, people will always want to touch products, specifically in our business – fabrics. Not all products are applicable to buying online.**
>
> KEVIN STACK, VICE PRESIDENT AND CIO, JO-ANN STORES

The Highly Reliable Times

VOLUME 1 – ISSUE 2

Windows Server 2003

WINDOWS SERVER TAKES CHECKERED FLAG OVER LINUX

Tom Nagy for The Highly Reliable Times

THE CONTIDROM, CONTINENTAL AG's storied test track located near Hanover, Germany.

BREAKING NEWS:

"Windows Server provides a reliable environment with centralized administration and management. Duplicating this level of service in a Linux-based environment would have been very difficult."

– Paul Schwefer, CIO, Continental AG

New System Gives Global Automotive Supplier 99.9% Reliability

By MICHAEL BETTENDORF

HANOVER, Jan. 2007 – "We needed rock-solid reliability, and we weren't getting it from our legacy infrastructure," says Paul Schwefer, CIO at Continental AG, one of the world's largest automobile suppliers with over 85,000 employees worldwide. Inadequate management tools made it difficult for Schwefer's team to keep system uptimes at the high levels expected at Continental AG, so a change in platform was necessary.

Initially, a Linux solution was considered. However, after a thorough evaluation, Schwefer's team determined that Linux could not deliver the reliable, predictable environment Continental AG required. Instead, they chose to use Microsoft® Windows Server® 2003.

With key features of Windows Server 2003 such as group policy management, Schwefer found clear advantages over a Linux-based solution. "Windows Server provides a reliable environment with centralized administration and management," said Schwefer, who believes that superior manageability leads to high reliability. "Duplicating this level of service in a Linux-based environment would have been very difficult and more costly," he says.

The decision has proven successful: Since the implementation, Windows Server 2003 has provided 99.9% reliability in a distributed environment for Continental AG. For the full Continental AG case study, plus other case studies and independent research findings on the reliability of Windows Server versus Linux, visit us online at microsoft.com/getthefacts

BREAKING NEWS: Reliability linked to cheerfulness in IT professionals

In a trend with global implications, IT professionals such as Continental AG's Paul Schwefer (pictured at left) show obvious signs of exuberance.

– Continued on Page B3

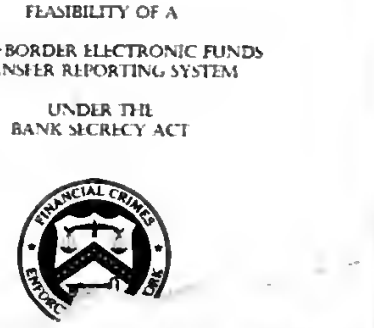
Continued from page 1

Database

dation" for deciding whether to actually require financial institutions to send information about international wire transfers to FinCEN.

Richard Riese, director of the American Bankers Association's Center for Regulatory Compliance, applauded FinCEN's go-slow approach, saying in an interview that banks would have to spend millions of dollars to deploy the technology needed to connect their systems to the proposed database.

Riese also questioned the accuracy of FinCEN's estimate that it would cost the government $32.6 million to develop the database. He said that amount "is not going to get them anywhere near" a system with enough capacity to handle the expected onslaught of 350 million to 500 million funds-transfer reports from banks each year.



The Treasury Department reported to Congress that a money-transfer database won't be ready when initially expected.

The proposed project is "so many orders of magnitude more than anything FinCEN has had to manage before," said Riese. "There is a lot for the government to appreciate [in] the technical challenges here."

In a separate statement issued last week, Wayne Abernathy, the ABA's executive director of financial institutions policy, described the number of funds-transfer reports that banks could be required to submit to FinCEN as "breathtaking." The report's acknowledgement that FinCEN currently lacks the IT infrastructure needed to handle such large amounts of data "is not reassuring," he added.

FinCEN officials declined to comment about the proposed database or the contents of the report, which is dated October 2006 but was just made available to the public last week.

Estimates Under Scrutiny

The Treasury Department's goal had been to launch the database, which Congress authorized as part of the Intelligence Reform and Terrorism Prevention Act of 2004, by next December. But FinCEN estimated that it would take about three and a half years to complete the necessary work.

The expected technology costs for both banks and the government are a "significant concern," the report said. It also said that questions about the government's ability to effectively use the funds-transfer data need to "be weighed carefully as we proceed."

The $32.6 million cost figure that FinCEN cited for the government includes nearly $3 million for servers and other hardware, plus $4.4 million for a relational database, online analytical processing tools and other software. In addition, FinCEN estimated that the project would require $1.5 million for hardware and software maintenance over three years and $800,000 for vendor support services.

The surveillance program would require banks and other financial institutions to report any cross-border transfers of more than $3,000 to the federal government. Although the 2004 intelligence reform law authorized the creation of the proposed database, it also directed the Treasury Department to study the feasibility of such a project and report on that to Congress. ▸

Gross writes for the IDG News Service.

Verizon-MCI Merger Is Meeting Goals, Exec Says

A year later, Killian says firm investing heavily in new product development

BY MATT HAMBLEN

Verizon Business, an operating unit formed after Verizon Communications Inc. acquired MCI Inc., marked its one-year anniversary on Jan. 6. The Basking Ridge, N.J.-based operation expects total revenue to exceed $20 billion for 2006, leading Verizon Business President **John Killian** *to call it "a very good first year." In a recent interview with Computerworld, Killian talked about the past year, the competition and the future of his business unit.*

How has the integration of MCI and the former Verizon Enterprise Solutions Group gone? We've just finished our first year in business and feel we had a very good first year. Integration has gone extremely well. One goal we had a year ago was to hit the enterprise market globally very quickly, achieving the switch to the Verizon Business brand. That has gone quite well. We're outperforming and gaining share on the other business carriers.

What are your hiring plans for 2007? Our workforce will probably stay fairly constant with where it is right now. In the first year, we brought the workforce down 10%, so it's more than 34,000 now. We'll be adding skill sets around the areas of professional services, IT and managed services, so you'll see a change in the mix of the workforce.

How does Verizon differentiate itself in the worldwide market? We've very well positioned with the best global network. We have 7,000 of our 34,000 workers overseas, which gives us unsurpassed capabilities. Major financial companies and manufacturers are looking for providers who offer service all over the globe. The former MCI retained a lot of share during the time they were potentially going bankrupt, and that's a real testament to the kinds of skill sets that were brought in. I think we've built on those. Also, we were a first mover to IP. Businesses are moving more and more to Internet Protocol for their networking and for VoIP, so that product set stands us out.

What's your reaction to the AT&T-BellSouth merger, especially the well-publicized concessions AT&T made to get FCC approval? Candidly, we at Verizon Business don't pay a lot of attention to it. Those conditions are AT&T conditions and not ours, so there's nothing constraining us at all. If anything, it might create some opportunity for us as far as speed in the marketplace, because we're not going through another integration, while they are.

Do you see a price war or something else brewing because of mergers and increased competition from foreign carriers? If anything, there's more logic put back in the industry with mergers. There used be a whole host of people going after the business, and it's a smaller group now.

What do your big business customers say is their top concern? Top of mind with all of them is reliability, making sure that the network works. Second, we hear a lot about the need for help [running] the day-to-day network, both voice and data. They want it to be up, they want it available, they want it modern. We're managing the voice and data networks for about 3,500 companies. That's growth of more than 20% per year, which is nice growth.

Where does Verizon Business need to improve? There's a couple of areas. One is continued new product development, particularly around IP and managed services and IT services. Second is that we need to get more efficient. While we're well ahead of our targets, there's still a lot of opportunity to be more efficient. We are investing significant money in new systems. The former MCI had three or four operational support systems, the brains that allowed the business to operate. They never integrated the UUnet, the MCI and the WorldCom systems. We have a program called Single Stack to bring that down to one operational support system. ▸

Correction

A story in last week's News section about shifting applications from mainframes to Unix systems ("Mainframe Migrations Follow Different Routes") listed an incorrect title for Nick Sementilli, an IT executive at The Reader's Digest Association Inc. Sementilli is the publishing company's vice president of global technology operations.

Computerworld Daily News
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Security: Issues and Trends
Virus and Vulnerability Roundup
Mobile/Wireless Computing
Networking
Careerfinal
IT Management
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An International IT News Digest

U.K. Schools Urged to Wait on Vista Rollouts

COVENTRY, ENGLAND

MICROSOFT CORP must make a stronger case for schools in the U.K. to upgrade to Windows Vista and Office 2007, according to a report issued this month by a British educational advisory group.

The report, by the government-funded British Educational Communications and Technology Association (BECTA), says that users can get 27% of Vista's new features without upgrading from Windows XP and that none of the 176 new features identified in Office 2007 are "must-haves" for educational institutions.

In addition, the report says that early deployments of Vista would be "high risk," and it advises schools to wait until the operating system has "a demonstrably stable and secure track record."

"What we are saying in the short term is that the case has not been made," said Tom McMullan, a consultant for Coventry-based BECTA.

Steve Beswick, Microsoft's director of education in the U.K., said Vista and Office 2007 received positive feedback from teachers and students at an education technology conference in London last week. "Clearly, we would like to think [the report] could have been better," Beswick said. "We feel very confident that once customers see the technology and evaluate it correctly, upgrades will happen."

■ JEREMY KIRK, IDG NEWS SERVICE

EC Moves to Rein in Polish Telecom Agency

BRUSSELS

THE EUROPEAN COMMISSION last week ordered Poland's national telecommunications regulatory agency to withdraw its plans to regulate the domestic retail market for services such as Internet access.

The EC's action came one week after the Polish agency, known as the Urzad Komunikacji Elektronicznej (UKE), issued draft plans to fine Telekomunikacja Polska SA (TP), the dominant carrier in Poland, 3% of its annual sales for overcharging end users for broadband Internet access.

The EC last year began considering whether to broaden its telecommunications regulations because many of the markets in European Union countries are still dominated by former public monopolies. However, the commission was critical of the UKE because it is focusing on regulating retail rather than wholesale markets, and because it views broadband and dial-up Internet access as a single market.

The EC said the agency's plan to regulate TP's retail broadband access services "on the basis of an incorrect market definition" may hinder the carrier's ability to compete and discourage TP and other vendors from investing in broadband infrastructures.

■ PAUL MELLER, IDG NEWS SERVICE

GLOBAL FACT

74M

Number of new mobile phone subscribers added in India last year, representing a 97% increase in the country's total user base.

SOURCE: TELECOM REGULATORY AUTHORITY OF INDIA, NEW DELHI

Siemens Forms Single Unit for IT Services

MUNICH

SIEMENS AG last week launched a new division that combines its IT and software development services, previously offered through five separate corporate units, into a single worldwide operation.

The company said the new unit, known as Siemens IT Solutions and Services GmbH, has combined annual revenues of about €5 billion ($6.5 billion U.S.) and employs 43,000 people.

A Siemens spokesman said SIS will be able to provide a comprehensive set of IT services from a single source. Outsourcing initially will account for nearly 60% of the group's revenue, he said. Services such as systems integration and SAP software implementation will account for 35% of the business, with the remainder coming from software development.

Christoph Kollatz, former president of the Siemens Business Services group, will lead the new unit.

■ JOHN BLAU, IDG NEWS SERVICE

Asian Countries Test IT Security Responses

SYDNEY, AUSTRALIA

COMPUTER SECURITY incident-response teams representing 12 countries in the Asia-Pacific region participated in the equivalent of a war-game scenario in mid-December to test local and international responses to Internet-based attacks.

The third annual test drill conducted by the Asia Pacific Computer Emergency Response Team was chaired by the Australian CERT. Graham Ingram, director of AusCERT and chairman of the full Asia-Pacific group, said the drills are aimed at reviewing and improving procedures for responding to attacks. "Members are already very active in helping each other respond to Internet attacks within our respective economies," Ingram said.

Also taking part in the test were the national security response teams from China, Japan, South Korea, Malaysia, Singapore, Thailand, Taiwan, Hong Kong, Vietnam and Brunei, India.

The Korea Information Security Agency developed and initiated the drill scenario. "The drill is basically intended as a cross-border incident handling scheme," noted Woo-Han Kim, who heads the Korean agency.

■ MICHAEL CRAWFORD, COMPUTERWORLD AUSTRALIA

Insurer Shifts Staffers From Services Firm

BANGALORE, INDIA

LONDON-BASED INSURER Aviva PLC has transferred 1,600 employees from one of its business process outsourcing (BPO) providers in India to its own Aviva Global Services subsidiary in Bangalore.

The transfer of employees from Bangalore-based 24/7 Customer Inc. is part of a plan by Aviva to shift 5,000 BPO workers from three services firms in India and Sri Lanka to the Aviva Global Services unit this year. Another 2,800 staffers assigned to Aviva will continue to be employed by the outsourcers.

Under the plan, which was announced last summer, Aviva will be able to cut costs because it won't be paying such large profit margins to the services firms, said Rajnish Virmani, CEO of Aviva Global Services. Aviva will also be able to modify and add business processes more quickly, Virmani said.

Aviva will continue contracts with Wipro Ltd. and Tata Consultancy Services Ltd. to do IT outsourcing work for the firm, he added.

■ JOHN RIBEIRO, IDG NEWS SERVICE

Compiled by Mike Bucken.

Briefly Noted

Tata Consultancy Services Ltd., India's largest outsourcing vendor, last week reported revenue of 48.6 billion rupees ($1.1 billion U.S.) for the quarter that ended Dec. 31. That's 41% higher than the revenue figure for the same period a year earlier. The Mumbai-based company's profits increased 47% to 11 billion rupees ($249 million). TCS added 5,562 employees during the quarter, increasing its total workforce to 83,500.

■ JOHN RIBEIRO, IDG NEWS SERVICE

BSN Medical GmbH, a Hamburg, Germany-based maker of medical products for wound care, orthopedics and phlebology, has signed a five-year, $35 million outsourcing contract with Unisys Corp. Under the contract, Unisys will provide a comprehensive suite of IT services to BSN Medical's 35 facilities worldwide, along with technical support for the company's 3,500 employees.

Renesas Technology Corp. in Tokyo and Powerchip Semiconductor Corp. in Hsinchu, Taiwan, plan next month to launch a joint venture in design memory chips. Each company will contribute engineering resources to the new operation, which will be called Vantel Co. and will be based in Tokyo. Powerchip will own 65% of Vantel, and Renesas 35%.

■ MARTYN WILLIAMS, IDG NEWS SERVICE

Avaya Inc. has agreed to acquire Ubiquity Software Corp., a Cardiff, Wales-based developer of software for fixed and mobile communications service providers, for about £74.3 million ($146 million U.S.) in cash. Basking Ridge, N.J.-based Avaya said it plans to use the Ubiquity technology, which is based on the Session Initiation Protocol, to help its customers better integrate communications technologies and business processes.

■ JOHN BLAU, IDG NEWS SERVICE

Sophos PLC has bought Endforce Inc., a Dublin, Ohio-based developer of enterprise network access control software, for an undisclosed price. Abingdon, England-based Sophos said it will retain Endforce's 60 employees and continue to develop and sell the acquired company's products under the Sophos brand.

■ PETER SAYER, IDG NEWS SERVICE

Cingular's New 3G LaptopConnect Card

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Cisco Adds Digital Signage Tools

BY MATT HAMBLEN

Cisco Systems Inc. last week unveiled a digital signage system that it said will enable stores to display and easily update information about their products at checkout lines.

Michael Chang, president at Fantasia Coffee and Tea in Cupertino, Calif., started using the Cisco Digital Signage system last week at the chain's Milpitas, Calif., store to display still pictures of his company's products for customers waiting at the checkout counter.

"Today, it is pictures; later, we could put on video and maybe provide information about the health benefits of tea," Chang said. "We kind of entertain people while they are in line."

The digital video format allows Fantasia Coffee and Tea to more quickly change information presented to customers than was possible using printed signs, Chang said. The company uses a Wi-Fi router in the store to relay data to the digital sign, he said.

Advertising and Beyond

Eventually, Chang said, the company hopes to send video data from a central location to digital video systems in each of its five stores. He also hopes to sell advertising space on the displays to help pay for the technology.

Thomas Wyatt, general manager of digital management at Cisco, said companies can also use the signs for employee training tasks.

The Digital Signage system includes Digital Media Manager, a Web-based software application, and Digital Media Player, a small hardware device that controls playback of video, graphics and text on video displays.

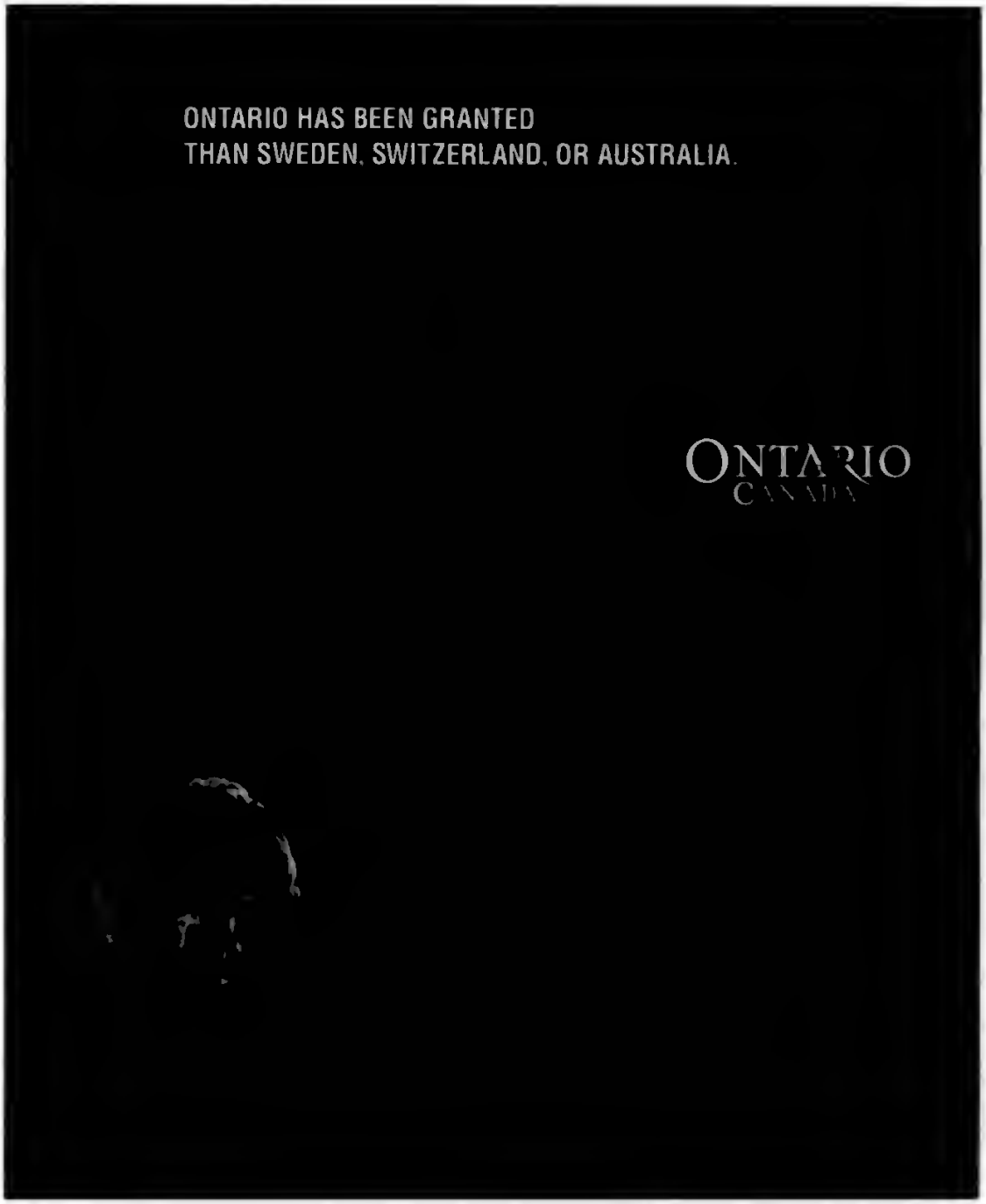
Digital Media Player is priced at $1,495, while the cost for Manager is based on a customer's configuration, Wyatt said.

In September, Cisco brought out two products called Digital Media Encoders to help create media for distribution over the Digital Signage network.

Melissa Webster, an analyst at market research firm IDC, called the digital signage business a "highly fragmented market" with a "tremendous number" of providers. Almost all the vendors are small, but larger ones tend to focus on building advertising networks or deploying outdoor signs.

"I think we will see very rapid uptake once there are large, standards-oriented vendors [such as Cisco] in the market," Webster said.

She noted that such systems can boost the business of retailers, which can use them for a promotion across hundreds of stores nationwide "literally at the push of a button."



DON TENNANT

Choosing Teams

IF YOU HAPPEN to find yourself in the unfortunate position of having done something last week that was really dumb and you're feeling lousy about it, take heart. There's a guy in Massachusetts who did something far more boneheaded than whatever it was you did. That would be me.

In my editorial last week, "A Wake-up Call," I made an effort to stress how crucial it is for IT professionals to commit to a standard of excellence regardless of the undertaking, given the intense global competition they face. To illustrate my point, I elected to share a reader's e-mail that addressed the H-1B issue and that was, by any measure, very poorly written.

You can imagine my mortification when readers knocked me off my high horse by pointing to this sentence in my editorial:

"Anyone who is willing do be associated with any undertaking — even one that is as relatively trivial as this — that is so poorly executed simply does not understand how very high the employment stakes are."

Of all the sentences in all the columns for me to mess up with a stupid typo, by writing "do" instead of "to." Readers let me have it.

"I found your article 'A Wake-up Call' very amusing," one wrote, "given that it slammed a reader's inability to communicate on a professional level, while demonstrating the same problem." Another reader was relentless, but darn funny. " 'Do be' or not 'do be' . . . that is the question!" he wrote. And then he couldn't resist:

"To do is to be — Descartes
To be is to do — Sartre
Do be do be do — Frank Sinatra"

OK, I deserved all that, and I apologize for the mistake. The wake-up has been slapped into me, and I'll remember it. I will say, however, that I do stand by the other 592 words in that editorial. The message is far too important to be overshadowed by my goof-up.

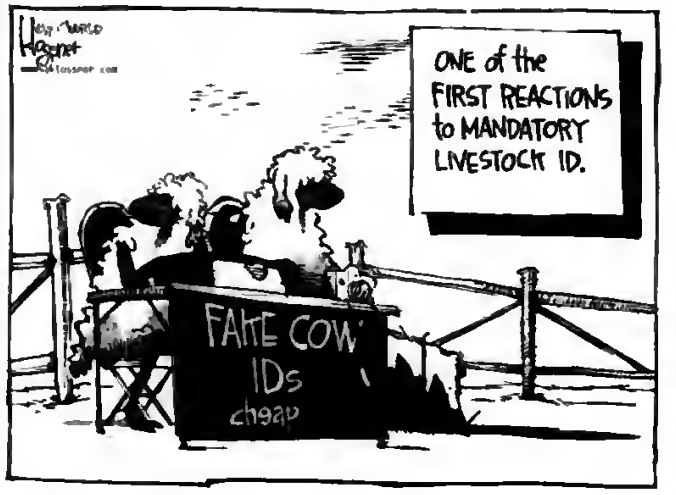
One reader, who said she's been in IT for 20 years, would agree. "Excellence in all you do is required to stay at the top of your game in IT," she wrote in response to last week's editorial. "I know I have more to offer than an outsourced alternative, but I also know that I have to know more and offer more to remain competitive. I think the disgruntled IT people are people that refuse to admit that they have to sharpen their skills to remain competitive. Salespeople have known this from the beginning of time. It's high time IT people got competitive instead of licking their wounds."

Not surprisingly, I got far more feedback that slammed the message even more relentlessly than my untimely typo. Most of it was directed against the H-1B program in particular, but a lot of it expressed outrage against globalization in general.

"Hundreds of thousands of American engineers are being fired and replaced with potential terrorists. Is that a risk you are willing to take?" one reader fumed. "This has nothing to do with the global marketplace! This has to do with American sovereignty and America's security. Don't just tout what the globalists say. You are an American citizen — that means something. Read the [C]onstitution. Join the team, man."

My response to that viewpoint is this: Yes, I am an American citizen, and I'm very proud of that fact. I've put myself in harm's way to defend my fellow American citizens. But the economic reality is that if you choose teams strictly on the basis of citizenship, your team is going to lose. ▪

Don Tennant



THORNTON A. MAY

Why Don't More CIOs Become CEO?

SO MANY companies, so few CEOs drawn from the ranks of the technology elite. What's going on? A very rudimentary review of empirical data reveals overwhelming evidence of a chronic nonadvancement of CIOs to the top spot — on a global basis.

There are 500 companies in the Fortune 500 and only a handful of former CIOs in the top job. You'll find a similar situation around the world: check out the leadership of the companies in France's CAC 40 index, Britain's FTSE 100, Hong Kong's Hang Seng and Germany's DAX.

THORNTON A. MAY is a longtime industry observer, management consultant and commentator. Contact him at [illegible]

Knowing what we know about CIOs — that is, that most are smart, hardworking, supremely aware of how the business works and increasingly savvy regarding the workings of external customers' minds — the failure of more CIOs to become CEO has to be one of the biggest mysteries of our age. If any readers can shed light on it, I'd love to hear what you have to say.

Do CIOs Have the Right Stuff?

Jack Welch, revered by many observers as the CEO's CEO, finessed the question of whether one is born with the CEO gene or acquires it, when he told reporters that being a CEO is all about "setting the right goals, reaching them the right way, and doing both in the right amount of time." Isn't that what CIOs do with a very complex portfolio of projects?

Many years ago, in their career-launching best-seller, *In Search of Excellence*, Tom Peters and Bob Waterman said great CEOs have eight basic traits:

1. They have a bias for action.
2. They're close to the customer.
3. They are both autonomous and entrepreneurial.
4. They achieve productivity through people.

5. They're hands-on and value-driven.

6. They stick to their knitting.

7. They use simple form and lean staffs.

8. They have simultaneous "loose-tight properties."

These eight magic ingredients certainly are not out of the reach of most current CIOs.

In the subsequent *Passion for Excellence*, Peters and Nancy Austin further distilled what they thought were the ingredients of success to two simple bullet points:

1. Do you have personal pride in what you do? Do you feel that you are doing something significant, meaningful and worthwhile?

2. Are you enthusiastic about your job?

Again, most CIOs today could answer yes.

Can iconic sound bites from the CEOs of yesteryear really tell us why more CIOs aren't moving up to the top spot? Maybe we should consult the words of a CEO who truly transcends time, Walt Disney. Disney, appropriately remembered for his creativity and vision, was also pretty savvy about playing the part of CEO. While he loved people, he came to the conclusion that "I'm not 'Walt Disney' anymore. Disney is a thing, an attitude, an image in the eyes of the public. I've spent my whole career creating that image, and I'm a great believer in what Disney is. But it's not me, the person, anymore."

A big part of being a CEO is what some scholars term the "out-of-body" leadership experience. That is, you have to be bigger than life. You are no longer Joe or Jane SVP; you are something bigger. It is perhaps somewhat ironic that by creating a bit of distance and adding a pinch of the theatrical, we become closer to the business and more likely to end up in the top job. ▸

VIRGINIA ROBBINS

Continuity Planning Is a Green Salad

I LOVE McDONALD'S french fries. Whenever I pull into the drive-through, I might contemplate getting a small green salad, but the french fries win out every time. My order arrives steaming and extra salty, and half of it is eaten before I pull out of the parking lot.

I know that eating right, along with exercising and getting enough sleep, is critical to living a healthy life, but salads are so dull and flavorless — at least when compared with fries. It's the same with business continuity planning. We all know it's good for the long-term health of our businesses, but there are so many other projects that need attention — and that would be far more satisfying to tackle.

Why do we find working on a business continuity plan so unappetizing? First, it's natural that we would rather not think about what could go wrong, and thinking about worst-case scenarios is essential in BCP. And when you start singling out what parts of the business may fail, you have to admit to the weaknesses in the people, processes and technologies that you rely on every day. It can make you feel insecure — who needs it? The prospect of spending a week or two contemplating life-threatening events like earthquakes, firestorms and floods and all the havoc they could wreak on the business is a lot like acknowledging that you'll have to lose 100 pounds before you can think about attending your high school reunion in six months. You could do something about it, but avoidance feels so much better.

Second, it's a hard sell convincing management that what goes into the BCP needs funding. So instead we deploy our companies' scarce resources on projects that make the board of directors happy by increasing sales or reducing costs.

Avoidance may work in the short run, but we have a fiduciary obligation to our shareholders to protect their investment, to our customers to safeguard our business and to our employees to provide a safe working environment. A good BCP does that. So how can we create interest and fund a good plan?

One underhanded approach might be to create a disaster. Of course, if it gets out of hand, the real disaster could be that you're out of a job (much as you could be if a disaster you didn't create and weren't prepared for cropped up). A more responsible alternative is to demonstrate how BCP saves money. You can do this by calculating your revenue losses for the most likely natural disaster outage and documenting how your key customers and their businesses would be affected.

To make the dangers clear to management, ask the executives how much they were able to accomplish with the staff that was available during the recent holiday period. Do they want to be unprepared for an event that could leave you with such low staffing for weeks on end? You might also get buy-in from executives who have outside charitable interests, by expanding your business resumption plan to include assistance to the community.

Finally, you could bundle BCP costs associated with mandated activities, such as those required by Sarbanes-Oxley. Managers can think about how to avoid or recover from disasters while they review processes for compliance.

And remember, you're not just protecting your company; you're potentially protecting your job. ▸

WANT OUR OPINION?

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www.computerworld.com/columns

READERS' LETTERS

Specious Argument

THE ARGUMENT in the article "Analyst: Online ID Fraud Is Hyped, Real Problem Is Offline" is specious [*Computerworld.com*, Oct. 25]. The total number of identity or credit card thefts online and offline isn't relevant; what matters is the relative rate per fixed number of transactions in each venue. I dare say that vastly more transactions are still done offline than online. Comparing raw numbers makes online transactions appear safe.

Aaron Salovich
Madison, Ala.

Nothing to Fear?

SEVERAL READERS have written expressing fears about the future of IT in the U.S. I strongly believe technical jobs will remain available in the U.S., though the quantity may change and the type will almost certainly change.

If our children remain in math and science programs and graduate from college, they will have ample opportunities to obtain employment. They should also look into learning another language and becoming comfortable with globalization. An understanding of the way the world works and recognition of the growing populations of their peers in countries like India and China should motivate them to excel in any field or venture they choose.

J. Nachman
Evanston, Ill.

Bogus Numbers

MAKING UP numbers destroys credibility, and the last thing we need is people not believing security threats ["Boeing Laptop Theft Puts U.S. Data Breach Tally Over 100M," *Computerworld.com*, Dec. 15]. But in the article, Beth Givens, director of the Privacy Rights Clearinghouse, says, "I think the number 100 million is largely a fictional number."

My bet is that the figure includes the 26 million people whose information was on stolen VA laptops, but thus far there is no indication that those people were in fact compromised.

Howie Mirkin
Bangkok, Thailand

Recovering Data Easier in Open World

JIM DAMOULAKIS' column "Alternatives for Recovering Historic Data" [*Computerworld.com*, Jan. 2] misses one obvious choice: Use open standards to avoid obsolescence and vendor lock-in. Choose a backup vendor that stores at least the data in an easily recovered manner. While indexes may be in a proprietary format, the data itself can be removed from backup media and examined if it is stored in a standard and well-known format. And there are many other applications that allow the writing of a text file index to the media as well as a proprietary binary format.

In the *nix world, some applications take this to the extreme by using standard tools like dump and tar, which any other *nix system can read and restore. These systems are also capable of backing up mixed networks, including Windows and Mac desktops and servers. The backup applications in this case basically provide only user interfaces and configuration help, using open standards under the covers.

Brian Peterson
CTO, Explorer Fund Advisors, Chicago, brian@braverock.com

COMPUTERWORLD welcomes comments from its readers. Letters will be edited for brevity and clarity. They should be addressed to Jamie Eckle, letters editor, Computerworld, PO Box 9171, 1 Speen Street, Framingham, Mass. 01701. Fax: (508) 879-4843. E-mail: letters@computerworld.com. Include an address and phone number for immediate verification.

TECHNOLOGY

01.22.07

Q&A

On the Horizon: 100 Gigabit Ethernet

John D'Ambrosia, chairman of the IEEE 802.3 Higher Speed Study Group, says that a 100Gbit/sec. Ethernet standard could be ready in 2010, providing more Internet bandwidth for video applications. **PAGE 28**

SECURITY MANAGER'S JOURNAL

Net Integration Gets Green Light

Mathias Thurman finds a number of security vulnerabilities that must be addressed before he can OK a network merger. **PAGE 30**

OPINION

This Integration Project Could Be a Lifesaver

Robert L. Mitchell says the Centers for Disease Control face a daunting task: to integrate a hodgepodge of incompatible systems. But the payoff could be earlier detection of public health crises. **PAGE 32**

Researchers at the defense agency invented the precursor to the Internet. **So, what's next?** A fault-tolerant wireless network and the next generation of supercomputers.

BRIAN STAUFFER

A Peek Inside

SAVE FOR a single manned police car that has sat in front of the building since 9/11, there is nothing about this particular office tower to distinguish it from hundreds of others in Arlington, Va. But inside 3701 N. Fairfax Drive, more than 100 computer scientists, biologists, materials specialists, microsystems experts, mathematicians and engineers are hatching ideas around a staggering variety of new technologies.

By Gary Anthes

It's the headquarters of the Defense Advanced Research Projects Agency, and the subjects being studied there include software that can translate and analyze Arabic TV broadcasts, insects with microcontrollers inside their bodies and the next generation of supercomputers.

DARPA's philosophical underpinnings have changed several times over the years (see "Shifting Missions," page 26), but its mission remains the same. In 1958, in the aftershock of the Soviet Union's Sputnik launch, President Eisenhower formed what was then known as the Advanced Research Projects Agency. Two years ago, DARPA Director Tony Tether told a congressional subcommittee, "Our mission is still to prevent technological surprise, but also to create technological surprise for our adversaries."

DARPA focuses on technologies for military use, especially those deemed too risky for the private sector to tackle on its own. But it has also been a catalyst for many commercial technologies, including timesharing, networking and the Internet, workstations, database technology, operating systems, semiconductors and parallel computing.

Open and Shut

Security is tight at the DARPA offices. Guards are everywhere, and visitors — mostly vendors looking for a piece of DARPA's $3 billion budget — must surrender their cell phones at the front desk if they contain cameras.

At the same time, DARPA is extraordinarily open for a military agency. Its main Web site, *www.darpa.mil*, is packed with detailed accounts of what the agency is up to and where it hopes to go in the future. DARPA's six offices have undertaken hundreds of projects, including the following:

- **The Information Processing Technology Office** (IPTO) is soliciting proposals for "cognitive" technologies that enable systems to reason, learn from experience, explain themselves and reflect on their own capabilities.
- **The Information Exploitation Office** is working to develop a handheld, command-guided "loitering cruise munition," a tiny guided missile that soldiers can use to fire at targets that are behind and inside buildings.
- **The Microsystems Technology Office** is sponsoring development of an atomic clock smaller than a sugar cube.
- The Intestinal Fortitude Program in the **Defense Sciences Office** aims to use beneficial bacteria in the gut to protect soldiers from enteric disease.
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Continued from page 24

ing Wing, a supersonic aircraft with no fuselage or tail that flies with one edge rotated forward and one back.

David Honey

"When I'm vetting a project, clearly what I look for is its value to the military," says David Honey, director of the STO. Commercial applications are often a byproduct, he says.

For example, the STO is trying to solve a difficult and expensive problem that U.S. forces face abroad. The spectrum of communications frequencies is statically allocated by type of use and user, and it varies by country. A military radio that is usable in the U.S. and Zambia, for example, may be illegal in Germany and South Korea. So radio frequencies must often be reconfigured for each local environment.

But any particular slice of spectrum at any given locale may be unused much of the time. "So you establish a network to operate in those open spaces," Honey explains, "and when a legitimate use comes up, you are very agile and you move the entire network over to another part of the spectrum."

DARPA has developed prototype software and hardware for just such an agile radio network. "There's tremendous commercial interest in this, because it's a problem worldwide," Honey says.

Indeed, a start-up called Shared Spectrum Co. in Vienna, Va., hopes to ride that commercial wave. "The payoff is going to be when the military application has a commercial extension," says Peter Tenhula, a vice president at the company.

For example, he says, companies with their own private wireless networks, such as couriers, could boost their bandwidth by 10 to 100 times with the technology, without losing control of their networks as they would if they purchased network services from a carrier.

Arpanet Revisited

Much of what Honey's office does today is aimed at making military networks robust and self-healing. It's a goal that goes back to the agency's creation of the Arpanet — the embryonic Internet — in the late 1960s. Packet-switching technology and the TCP/IP protocols were designed to ensure that the network could survive in the face of multiple failures.

"All of this has its roots right back to the work of Vint Cerf and Bob Kahn," who invented TCP/IP while working at DARPA, Honey says.

Now DARPA is taking those concepts to a new level, and pioneers like Cerf are still contributing. For example, IP-based wireless networks don't work well when connectivity is interrupted. So in the Disruption Tolerant Networking (DTN) program, cheap memory is used to cache data packets at individual nodes until service can be restored.

Some of the concepts for DTN came from Cerf's earlier work in delay-tolerant networking for the Interplanetary Internet project. Recalls Honey, "Vint came to us and said, 'We are doing this work. Wouldn't there be some military application?' That's a very common occurrence — people coming to us with an idea."

Charles Holland, director of the IPTO, says his unit focuses on "computing for human productivity," and the target users are "warfighters and military decision-makers."

Charles Holland

For example, the IPTO is developing technology to translate and analyze voices from Arabic and Chinese television and radio broadcasts. "We've been in this for many years," he says, "but about three years ago, the real requirement for this showed up, in Iraq. We had to really speed this up, to make it happen."

DARPA's speech technology has been deployed in nine locations, and it can translate with about 50% accuracy — "good enough to see if public sentiment is going a certain way," Holland says. By 2009, that's expected to reach 90%, which is as good as human translators.

In parallel, the program is working on "distillation" technology designed to remove irrelevant and redundant information from masses of translated text. The goal is to go from 30% to 110% of human ability in the next few years.

One project that has commercialization as a specific goal is DARPA's High Productivity Computing Systems (HPCS) supercomputer program. "We asked the vendors to propose to us systems that would be economically competitive," Holland says. "They might not sell many at the very high end [2 PFLOPS scalable to 4 PFLOPS], but they'd have to have a strategy for marketing that technology so the government wouldn't have to pay for it all."

A similar program in the 1980s resulted in the creation of a number of innovative, high-performance parallel computing architectures — such as Thinking Machines Corp.'s Connection Machine. But they never went on to widespread commercial use, leaving the military to pick up most of the research, development and support costs.

There's another crucial difference between this HPCS program and the earlier program, which focused on peak processing speeds.

"We use the word *productivity* rather than *performance*," Holland says. "It's from the time a guy thinks about a problem to the time the answer comes out of the machine."

The goal, Holland says, is to improve application productivity by a factor of 10 through new programming languages and development tools. In November, DARPA awarded a total of $494 million to IBM and Cray Inc. for the next phase of the program, which is expected to result in fully functional systems in four years.

On a more intimate scale, DARPA continues to refine and enhance its PAL, or Personalized Assistant That Learns, a package of artificial intelligence technologies that learn user behaviors and preferences by scanning e-mails, calendar entries, Web activity and so on. A prototype is being readied for deployment in Iraq, where it will automate the chore of writing up reports about the situation on the battlefield, which currently takes command center personnel two hours at the end of their 12-hour shifts.

Later in the program, Holland says, PAL will be able to "automatically watch a conversation between two people and, using natural-language processing, figure out what are the tasks they agreed upon."

At that point, perhaps DARPA's PAL could be renamed HAL, for Hearing Assistant That Learns. The original HAL, in the film *2001: A Space Odyssey*, tells the astronauts how it knows they're plotting to disconnect it: "Dave, although you took thorough precautions in the pod against my hearing you, I could see your lips move."

SHIFTING

DARPA's mission is to foster development of technologies that help the U.S. military. Few question that goal, but over the years, Democrats in Congress and the White House have also tended to view the agency as a good vehicle for jump-starting risky commercial technologies, from semiconductors to supercomputers and flat-panel displays. Republicans, on the other hand, decry such "industrial policy," insisting DARPA stick to its guns, so to speak.

There's a lot in a name, and the ARPA/DARPA label has flip-flopped several times. In 1972, the Nixon administration added "Defense" to Advanced Research Projects Agency. In 1990, the Bush White House sacked DARPA's director over initiatives that it said were more aimed at boosting U.S. economic competitiveness than at improving military capabilities. In 1993, DARPA swung back to ARPA, in accordance with a Clinton administration strategy paper on the role of technology in the economy. Finally, in 1996, a Republican-led Congress changed the name to DARPA once again.

Those swings have been accompanied by changing views on the relative importance of results-oriented, short-term research vs. basic, long-term research. **Vinton Cerf**, an Internet pioneer who co-developed TCP/IP while working for DARPA from 1976 to 1982, and now chief Internet evangelist at Google Inc., recently reflected on DARPA's shifting priorities.

Critics complain that DARPA has cut back funding for basic research, especially long-term research. Where's the grumbling coming from? The most critical community lodging these opinions is the computer science community, a group strongly funded by DARPA during the 1960s through at least 1990, when the Arpanet was retired.

Between 1996 and 2001, DARPA research funding at major university computer science programs dropped by a factor of two, owing in part to the refocusing of DARPA's efforts toward classified work and engineering-oriented initiatives with more immediate relevance to military applications.

Was that shift a good thing? The notion of a go/no-go test fairly early in a research program forces the effort to have measurable results, often within 18 months. It could be argued that this philosophy may prune nonproductive research quickly, but it may also inhibit major discoveries or developments, owing to the short window for a decision to extend the effort.

The computer science community feels that it has received less support . . . than before. Senior DARPA officials see this as a drifting of the computer science community away from relevance to the military, or at least to DARPA.

How would you judge the effectiveness of DARPA programs? There are some very ambitious programs under way at DARPA, and I think it would be fair to argue that DARPA's success metrics are still very, very high. But there is a certain impatience for results compared to some of the earlier network research. The results [of the earlier work] have been pretty spectacular, taking the Internet as an example.

– GARY ANTHES

Continued from page 24

ing Wing, a supersonic aircraft with no fuselage or tail that flies with one edge rotated forward and one back.

David Honey

"When I'm vetting a project, clearly what I look for is its value to the military," says David Hooey, director of the STO. Commercial applications are often a byproduct, he says.

For example, the STO is trying to solve a difficult and expensive problem that U.S. forces face abroad. The spectrum of communications frequencies is statically allocated by type of use and user, and it varies by country. A military radio that is usable in the U.S. and Zambia, for example, may be illegal in Germany and South Korea. So radio frequencies must often be reconfigured for each local environment.

But any particular slice of spectrum at any given locale may be unused much of the time. "So you establish a network to operate in those open spaces," Honey explains, "and when a legitimate use comes up, you are very agile and you move the entire network over to another part of the spectrum."

DARPA has developed prototype software and hardware for just such an agile radio network. "There's tremendous commercial interest in this, because it's a problem worldwide," Honey says.

Indeed, a start-up called Shared Spectrum Co. in Vienna, Va., hopes to ride that commercial wave. "The payoff is going to be when the military application has a commercial extension," says Peter Tenhula, a vice president at the company.

For example, he says, companies with their own private wireless networks, such as couriers, could boost their bandwidth by 10 to 100 times with the technology, without losing control of their networks as they would if they purchased network services from a carrier.

Arpanet Revisited

Much of what Honey's office does today is aimed at making military networks robust and self-healing. It's a goal that goes back to the agency's creation of the Arpanet — the embryonic Internet — in the late 1960s. Packet-switching technology and the TCP/IP protocols were designed to ensure that the network could survive in the face of multiple failures.

"All of this has its roots right back to the work of Vint Cerf and Bob Kahn," who invented TCP/IP while working at DARPA, Honey says.

Now DARPA is taking those concepts to a new level, and pioneers like Cerf are still contributing. For example, IP-based wireless networks don't work well when connectivity is interrupted. So in the Disruption Tolerant Networking (DTN) program, cheap memory is used to cache data packets at individual nodes until service can be restored.

Some of the concepts for DTN came from Cerf's earlier work in delay-tolerant networking for the Interplanetary Internet project. Recalls Honey, "Vint came to us and said, 'We are doing this work. Wouldn't there be some military application?' That's a very common occurrence — people coming to us with an idea."

Charles Holland, director of the IPTO, says his unit focuses on "computing for human productivity," and the target users are "warfighters and military decision-makers."

Charles Holland

For example, the IPTO is developing technology to translate and analyze voices from Arabic and Chinese television and radio broadcasts. "We've been in this for many years," he says, "but about three years ago, the real requirement for this showed up, in Iraq. We had to really speed this up, to make it happen."

DARPA's speech technology has been deployed in nine locations, and it can translate with about 50% accuracy — "good enough to see if public sentiment is going a certain way," Holland says. By 2009, that's expected to reach 90%, which is as good as human translators.

In parallel, the program is working on "distillation" technology designed to remove irrelevant and redundant information from masses of translated text. The goal is to go from 30% to 110% of human ability in the next few years.

One project that has commercialization as a specific goal is DARPA's High Productivity Computing Systems (HPCS) supercomputer program. "We asked the vendors to propose to us systems that would be economically competitive," Holland says. "They might not sell many at the very high end [2 PFLOPS scalable to 4 PFLOPS], but they'd have to have a strategy for marketing that technology so the government wouldn't have to pay for it all."

A similar program in the 1980s resulted in the creation of a number of innovative, high-performance parallel computing architectures — such as Thinking Machines Corp.'s Connection Machine. But they never went on to widespread commercial use, leaving the military to pick up most of the research, development and support costs.

There's another crucial difference between this HPCS program and the earlier program, which focused on peak processing speeds.

"We use the word *productivity* rather than *performance*," Holland says. "It's from the time a guy thinks about a problem to the time the answer comes out of the machine."

The goal, Holland says, is to improve application productivity by a factor of 10 through new programming languages and development tools. In November, DARPA awarded a total of $494 million to IBM and Cray Inc. for the next phase of the program, which is expected to result in fully functional systems in four years.

On a more intimate scale, DARPA continues to refine and enhance its PAL, or Personalized Assistant That Learns, a package of artificial intelligence technologies that learn user behaviors and preferences by scanning e-mails, calendar entries, Web activity and so on. A prototype is being readied for deployment in Iraq, where it will automate the chore of writing up reports about the situation oo the battlefield, which currently takes command center personnel two hours at the end of their 12-hour shifts.

Later in the program, Holland says, PAL will be able to "automatically watch a conversation between two people and, using natural-language processing, figure out what are the tasks they agreed upon."

At that point, perhaps DARPA's PAL could be renamed HAL, for Hearing Assistant That Learns. The original HAL, in the film *2001: A Space Odyssey*, tells the astronauts how it knows they're plotting to disconnect it: "Dave, although you took thorough precautions in the pod against my hearing you, I could see your lips move."

SHIFTING

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– BARY ANTHES

IBM.

_INFRASTRUCTURE LOG

_DAY 27: These compliance regulations are killing us! Audits. Inconsistencies. Processes. Time. Money. I feel like I'm being chased by regulatars.

_Oh, wait. I am being chased by regulators. Run!!!!!

_DAY 28: I've got it: IBM Tivoli middleware. It automates system administration to standardize compliance policies. It centrolizes processes to minimize the headaches af new and ever-changing regulations. And it helps pinpoint security issues before they become problems and maintains business integrity.

_Gil is bummed we had ta ditch the high-carb diet.

Tivoli.

Better manage the business of I.T. at:
IBM.COM/**TAKEBACKCONTROL**/COMPLIANCE

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100 Gigabit Ethernet

Who needs 100Gbit/sec.? Large corporations, supercomputer users, HDTV viewers and the YouTube generation.

Q&A *THE IEEE'S LATEST PROJECT could significantly boost the speed of traffic delivery across the Internet. In November, the IEEE's 802.3 Higher Speed Study Group announced that it's working to create a 100Gbit/sec. Ethernet standard, which could be ready by 2010. The group is racing against time to accommodate the increasing demands of content creators and consumers around the world. Sandra Gittlen recently spoke with* **John D'Ambrosia**, *chairman of the study group and a scientist at Force10 Networks Inc., about the impact of 100G Ethernet on technology users.*

What is driving the need for 100G Ethernet? There are many applications where you're seeing the need for 100G emerging. Some examples are Internet exchanges, carriers and high-performance computing. You're also seeing a need when you look at what's happening with personalized content, which includes video delivery such as YouTube, IPTV and HDTV. There's also video on demand. All of this together is driving the need for 100G Ethernet.

Consumers are also contributing to this. For instance, people have digital cameras that churn out large files that they want to share across the Internet. Content-generation capabilities are increasing rapidly at both the professional and consumer level.

JOHN D'AMBROSIA is Chairman of the IEEE 802.3 Higher Speed Study Group and Scientist at Force10 Networks Inc., San Jose

This is creating a basic ecosystem problem — people are sharing content at a higher level, and all of that has to feed into today's pipes.

Is there enough bandwidth today to meet the needs of businesses, content providers and consumers? You do have 10G Ethernet already, and if you use link aggregation — which allows you to pool your 10G links to create a bigger pipe — you can go higher. But bandwidth needs are quickly surpassing these bandwidth limits.

When we did an analysis to check the viability of a 100G Ethernet standard, we found that the top supercomputers could already use that much bandwidth today. However, these standards are not something you whip out in 18 months. Right now, we're trying to define what will be in the 100G project. That's a time-consuming process — you have to create baseline proposals, develop the spec and get comments. We have to go through the document and make sure we got everything right. But, yes, we are hearing people say we need it now, even though a final spec is at least three to four years away.

Do you foresee a lot of prestandard technology on the market? Some companies are already talking about 100G. I think the reality is that there are a lot of different technologies that are going to be needed to fully deploy 100G Ethernet. You'll need new optics, backplanes and chip technologies. 10G backplanes won't be sufficient, so you need to make a leap there.

In regard to 100G Ethernet prestandard, [IT managers] are very nervous about going with prestandard technology. They'll do it if they have to, but it will be hesitantly. And they will surely keep their eyes on what's happening in the standards bodies.

You mentioned that companies are using link aggregation to get to higher speeds today. Why is that a problem? Link aggregation scales up to a limit, and then it becomes an issue. Depending on who you talk to, you'll hear that two, four or eight links can be aggregated together before you have management and troubleshooting issues. Also, those cables take up precious real estate, and you have power and cooling considerations. Using up those ports for link aggregation also creates lost revenue opportunities, because any port that's tied up is not bringing in revenue. There are a lot of issues with scaling, too.

There is a lot of talk that the YouTube phenomenon is among the key drivers for a 100G Ethernet standard. Are there other issues out there that a 100G Ethernet spec will solve? YouTube is interesting — it's experiencing 20% traffic growth per month and is constantly adding 10G links to support this growth. However, YouTube is not the only reason for 100G. The study group has had to prove that there is a need by addressing five criteria: broad market potential, compatibility, technical feasibility, economic feasibility and distinct identity. This has to be a unique and necessary solution.

A major part of this is broad market potential. You don't generate a spec for one customer that's out there. While YouTube is one of the content providers I talked about earlier in terms of applications and exploding bandwidth requirements, it is not the only one.

We are also considering the move to HDTV for many households. Comcast charts the difference between standard traffic rates and high-definition traffic rates at 3.5Mbit/sec. vs. 19Mbit/sec. If you look at the number of HDTVs being sold, that higher rate becomes critical to support.

Will the typical IT or data center manager be affected by the move to 100G Ethernet? People with large data centers will start to feel it if they don't feel it already. Applications will start driving bandwidth requirements of aggregated and individual links. One IT manager I know works in construction, and he told me how he could already use 100G today because of the reports his vertical application generates. Each report uses up about 30Mbit/sec. or 40Mbit/sec. of bandwidth. He's got a 60G pipe handling the load, but he worries that new platforms such as Vista might alter his requirements. He's already looking for workstations with 10G Ethernet links.

The medical industry is another example. The folks working on the Human Genome Mapping [Project] could use 100G to share information among university research groups. They already generate reams and reams of data. There are also MRIs — the bandwidth requirements for these imaging machines are phenomenal. They can generate 500MB of data an hour. Think about the fact that the diagnostics being done for those images is now handled offshore in some cases. That's a lot of data to send back and forth.

And finally, there's disaster recovery and backup that needs to be dealt with within companies. All the data we're creating and consuming personally and professionally has to be stored and protected. ▸

Gittlen is a freelance writer for Computerworld.com.

WHY 100G?

The IEEE 802.3 Higher Speed Study Group considered various speeds for next-generation Ethernet, including 40Gbit/sec., 80Gbit/sec. and 120Gbit/sec., but none of them garnered enough backing. It was 100Gbit/sec. that achieved the required 75% vote. The group weighed the time and effort required to achieve a speed against how well it would meet the needs that will exist when it becomes available, says group Chairman John D'Ambrosia.

Products are expected in 2009 or 2010, but the cycle never ends. "This will never be the last Higher Speed Study Group," D'Ambrosia says. "We'll get this done, and eventually, there will be a push for another speed after this."

– STEPHEN LAWSON, IDG NEWS SERVICE

FAST LANE

IBM

_INFRASTRUCTURE LOG

_DAY 44: This lack of productivity is out of control. Whot we're using isn't working. Gil's hod enough. He moved everyone into one cubicle. A "colloborotion" cubicle. We need o better ideo.

_DAY 46: I'm going with IBM Lotus® Notes® ond Domino.® It's more thon e-mail; it's on open plotform designed for colloborotion. It hos proven security feotures ond productivity enhoncers like document shoring ond custom opp development. And it's flexible enough to integrote ocross multiple plotforms, including J2EE™ ond Linux.®

_OK, who sot on my lunch?

Lotus.

Download the Lotus Notes & Domino demo at:
IBM.COM/**TAKEBACKCONTROL**/COLLABORATION

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Net Integration Gets Green Light

An assessment reveals many vulnerabilities to mitigate before a network merger can begin. By Mathias Thurman

SECURITY MANAGER'S JOURNAL

A COUPLE OF months ago, I described the problems that I uncovered in my initial assessment of the security issues that accompanied my company's acquisition of a fairly large competitor ("Putting the Brakes on Net Integration," Nov. 27). Now I can report on what we did to resolve those issues.

Among the things our vulnerability assessment turned up were a lack of antivirus software, missing security patches, a nonexistent password policy and unsecured wireless access points. All of those problems would keep me from approving a Multiprotocol Label Switching (MPLS) network circuit between the acquired company's main office in Connecticut and our own main corporate data center.

We also discovered that remote offices in Germany, Singapore and Malaysia all had point-to-point virtual private network connections running over regular Internet connections through local providers. The VPNs ran between the remote offices' SonicWall firewalls and a Symantec firewall installed at headquarters in Connecticut. I wanted to obtain the security configurations of those three remote firewalls to validate the security policies that were in place. I was able to do that for Singapore, which looked fine. But I couldn't get anywhere with Germany or Malaysia, where the third-party providers wouldn't cooperate.

I had no choice; I had to consider those firewalls suspect and add them to the list of items that needed remediation before I could authorize the network team to activate the MPLS circuit.

To solve this dilemma, I sent one of my security engineers to Connecticut to swap out the Symantec firewall with a Juniper Networks SSG-550 unit. This fairly new line of firewalls is very nice. Not only are they standard firewalls, but they also provide antivirus protection, intrusion prevention and content filtering, and can serve as VPN concentrators. The Juniper product is an ideal platform for midsize to large remote offices (which the Connecticut office will be), since we don't have to purchase separate devices for all of those chores. To give you a sense of how much easier this is, in the past, our standard bill of materials for a remote office included a Juniper NetScreen-204 or 208 firewall, a Blue Coat Systems Inc. appliance for Web filtering and caching, a Juniper Intrusion Detection and Prevention product or a Snort sensor for intrusion detection, and a Nortel Contivity VPN concentrator.

The firewall swap-out in Connecticut was successful, and we replaced the SonicWall firewalls in the offshore offices with Juniper NetScreen-50 firewalls, since they were very small offices.

Turning my attention to antivirus and software vulnerabilities, I mandated that all servers and desktops be configured with Trend Micro OfficeScan, updated with the latest security patches and configured for automatic updates. Our acquisition didn't use Microsoft's Systems Management Server patch management service or an automated means of pushing out software or configuration settings. That meant each machine would have to be attended to individually, and that could take a while. Besides its headquarters in Connecticut, our acquisition has a large office in New Mexico. Those two locations each had two IT guys serving about 200 employees. To speed up the process, I had each location hire contractors to help out. They were instructed to upgrade the desktops, install the Trend Micro antivirus software, update the security patches and enable automatic updates so that the desktops would remain compliant. Within a week, we had a 95% compliance rate, which I considered a success.

I also had the IT guys configure a domain password policy to meet our corporate standard. Users had been free to create any password they wanted, and about 65% of those passwords could be cracked in less than an hour.

Next up were wireless access points. APs were connected to the company's internal network, with the SSID being broadcast and a shared WEP key used to associate to the AP. Our company standard is to terminate APs on a separate virtual LAN and have users tunnel into the company network via the VPN for Internet and intranet access. We also use WPA and TKIP, which is a much more robust encryption standard. Unfortunately, the acquisition's APs were old and didn't support current security standards. Since only a couple of people were using wireless, I simply had the APs removed for now. Wireless will be reinstated when our network team installs our corporate-standard APs, Cisco Aironet 1200s.

Final Obstacle

Of course, nothing in IT goes as planned, and the remediation was no exception. Just when things seemed to be going smoothly, management announced a layoff of about 85 acquisition employees. This is a huge cut in a company with a workforce of about 400. So, on top of the remediation, I had to come up with a plan to ensure that network access would be terminated for departing employees upon notification and that no opportunities for intellectual property theft would arise. Fortunately, our review of the acquisition's architecture had provided me with a solid understanding of the various points of entry, from physical access to dial-up modems, and we were able to effectively remove access within a few hours after the notifications started.

Finally, at the end of the first week of the new year, I gave the network team the green light to install the MPLS circuit. The network technicians had been hounding me for the go-ahead, but I waited until I felt that we had laid the groundwork for a safe connection. But we'll be keeping an eye on things now that our networks are merged, since there are risks. For example, if any malicious code is propagating through the acquisition's network, it could make its way to the rest of what is now one corporate network.

WHAT DO YOU THINK?

This week's journal is written by a real security manager. "Mathias Thurman," whose name and employer have been disguised for obvious reasons. Contact him at mathias_thurman@yahoo.com, or join the discussions in our security blogs. **computerworld.com/blogs/security**

To find a complete archive of our Security Manager's Journals, go online to **computerworld.com/secjournal**

SECURITY LOG

Security Bookshelf

Cisco Network Admission Control, Volume I: NAC Framework Architecture and Design, by Denise Helfrich, Lou Ronnau, Jason Frazier and Paul Forbes (Cisco Press, 2006).

I recommend this book for anyone contemplating an implementation of NAC. While the focus is on Cisco, the concepts and strategies are fairly standard. Chapters 1 to 6 primarily discuss Cisco's NAC framework and the elements that make up Cisco's offering. Chapter 7 is dedicated to planning and design. Always a fan of quizzes, I was happy to find one at the end of each chapter.

– MATHIAS THURMAN

Breaches, Laptop Thefts Continue

- Moneygram acknowledged that an intruder last month breached the security of a server containing personally identifiable information of some 79,000 customers. The payment services firm is notifying those affected.
- The North Carolina Department of Revenue sent letters to 30,000 taxpayers notifying them that a stolen laptop contained their personal information, including Social Security numbers.
- The University of Idaho is planning to mail letters to more than 300,000 people warning them about the potential compromise of personal data following the theft of three desktop computers in November.
- The University of Arizona is investigating a computer break-in that [illegible] personal information.

_INFRASTRUCTURE LOG

_DAY 34: This indecision is sinking the business. How do we move to a service oriented architecture? Where do we start? Can we reuse what we have?

_Infrastructure quicksand!! We waited too long. I'd throw Gil my tie, but it's a clip-on.

_DAY 37: A lifeline: IBM WebSphere middleware! It's already helped thousands of customers build an SOA. Adapters give us a standardized approach to integrating apps from SAP, Oracle and others. And it lets us reuse what we have, saving time and money.

_Oh, great. There's sand in my yogurt.

IBM

WebSphere

Download the reuse and connectivity kit at:
IBM.COM/TAKEBACKCONTROL/CONNECT

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BRIEFS

HP Developing Nanowire Chip

Hewlett-Packard Co. researchers may have figured out a way to prolong Moore's Law by making chips more powerful and less power-hungry.

HP Labs last week said it created a method of using a "crossbar switch" that more efficiently routes signals inside a common kind of chip called a field programmable gate array (FPGA). The technology could lead to the creation of chips packed with far more transistors on board, leading to faster computing times.

HP calls its new technology field programmable nanowire interconnect. The lab hopes to make a prototype chip using the technology within a year, and HP plans to produce chips that contain a 15-nanometer crossbar by 2010.

HP is among other companies trying to keep alive Moore's Law, which states that the number of transistors on a chip will double about every 18 months.

FPGA chips are often used in networking devices because they can be reprogrammed using software instead of needing to be replaced. That is an important consideration in routers, which are often in tough-to-reach places.

– DAN NYSTEDT, IDG NEWS SERVICE

BrainKeeper Offers Corporate Wiki

BrainKeeper Inc. in Centreville, Va., last week released its Enterprise Wiki product, which has two key new features: content workflow controls and the BrainKeeper application programming interface, which allows users to integrate the wiki with existing knowledge management systems. The workflow controls allow users to see what changes have been made to the wiki content. The BrainKeeper API pulls content out of Enterprise Wiki so it can be loaded into other systems. The software starts at $35 monthly for up to nine user accounts.

ROBERT L. MITCHELL

This Integration Project Could Be a Lifesaver

IF YOU THINK you face integration challenges in 2007, consider the situation at the Centers for Disease Control and Prevention in Atlanta. Better integration between its information systems could help officials address new threats to public health that range from the increasing number of antimicrobial-resistant infections in hospitals to influenza outbreaks and terrorist attacks.

ROBERT L. MITCHELL is a Computerworld national correspondent. Contact him at robert_mitchell@computerworld.com.

In the war on disease, information technology is a mission-critical weapon. Today, however, much of the CDC's information still remains tucked away in silos.

The CDC is a sprawling agency with many different subcenters, each of which gathers information for different purposes. Few of the CDC's systems were originally designed to be interoperable, nor were the data structures designed with cross-functional integration in mind. Furthermore, much of the data the CDC relies upon comes from state and local officials who have their own systems.

The CDC's National Center for Public Health Informatics (NCPHI) has been working for four years to create a framework for consolidating its disparate systems and making them interoperable. By gathering data faster and aggregating data from various sources for better analysis, the CDC hopes its Public Health Information Network initiative can identify trends faster and enable states and health care professionals to respond more quickly.

Whereas poorly executed integration projects cost businesses money, the success or failure of the CDC's efforts will be measured in human life. For example, an early-warning system, part of the CDC's BioSense initiative, could provide critical information during an influenza pandemic. It might help health officials fight the spread of an outbreak that could take millions of lives.

The scope of the integration challenge is huge, however. The CDC has information systems that track food-borne illnesses, adverse drug interactions, hospital infections and influenza, to name just a few health concerns. Even within one area of focus, there can be a mix of disparate systems that must be pieced together to create a full picture. For example, there are seven different IT components just for flu surveillance. The CDC must assemble information from subcenters that track how many people were affected, whether they had flu shots, who had adverse reactions to flu shots and how vaccines are disseminated.

Before it can do that, however, the CDC needs to know exactly what resources are available. "There are systems I don't even know about," acknowledges NCPHI medical officer Dr. Thomas Saval. Right now, his organization is trying to get a handle on what systems are out there so it can decide whether to migrate those to newer systems or upgrade them to support current CDC standards.

While today there are more information repositories for public health than Saval can count, the good news is that the NCPHI has a plan to harmonize and consolidate them. That includes standard data vocabularies, as well as messaging, security and directory systems and other components that must be uniform for cross-functional use.

The CDC also has several national health initiatives under way and is beefing up its IT infrastructure to handle the collected data. The new systems are designed for organizationwide use and meet the agency's new standards.

For example, the Early Event Detection system, which began ramping up in 2006, receives near-real-time data feeds from some hospitals and other sources and collects a broad spectrum of data. The system is designed to spot early indicators of a public health problem. For example, in the early stages of an influenza outbreak, a sudden increase in sales of acetaminophen might alert officials to the threat even before patients start showing up at hospitals. The challenge lies in connecting hospitals, clinics and other reporting sources. To date, the system has about 350 participating hospitals, but that's a fraction of the more than 6,000 facilities in the U.S.

Other projects under way include the Vaccine Adverse Events Reporting System, the Epidemic Information Exchange and the National Electronic Disease Surveillance System. The NEDSS addresses another CDC challenge: getting states to provide data electronically in a timely and consistent fashion. State health departments can install NEDSS software, which is accessible to any health official with Internet access and a browser.

However, even if the CDC can get all of its information systems on the same page, it will need to persuade states and health care providers to participate. Ultimately, Saval says, the CDC plans to move toward a service-oriented architecture and is hoping that the states will go along. If they do, information systems in local and state health departments could be much more tightly integrated with CDC systems.

With SOA projects still in the early stages, that level of integration may not come to pass for some time at the CDC — and it may never happen at the state and local level. But with the threat of a potentially deadly avian flu pandemic looming, any changes that ensure faster analysis and response can't come soon enough.

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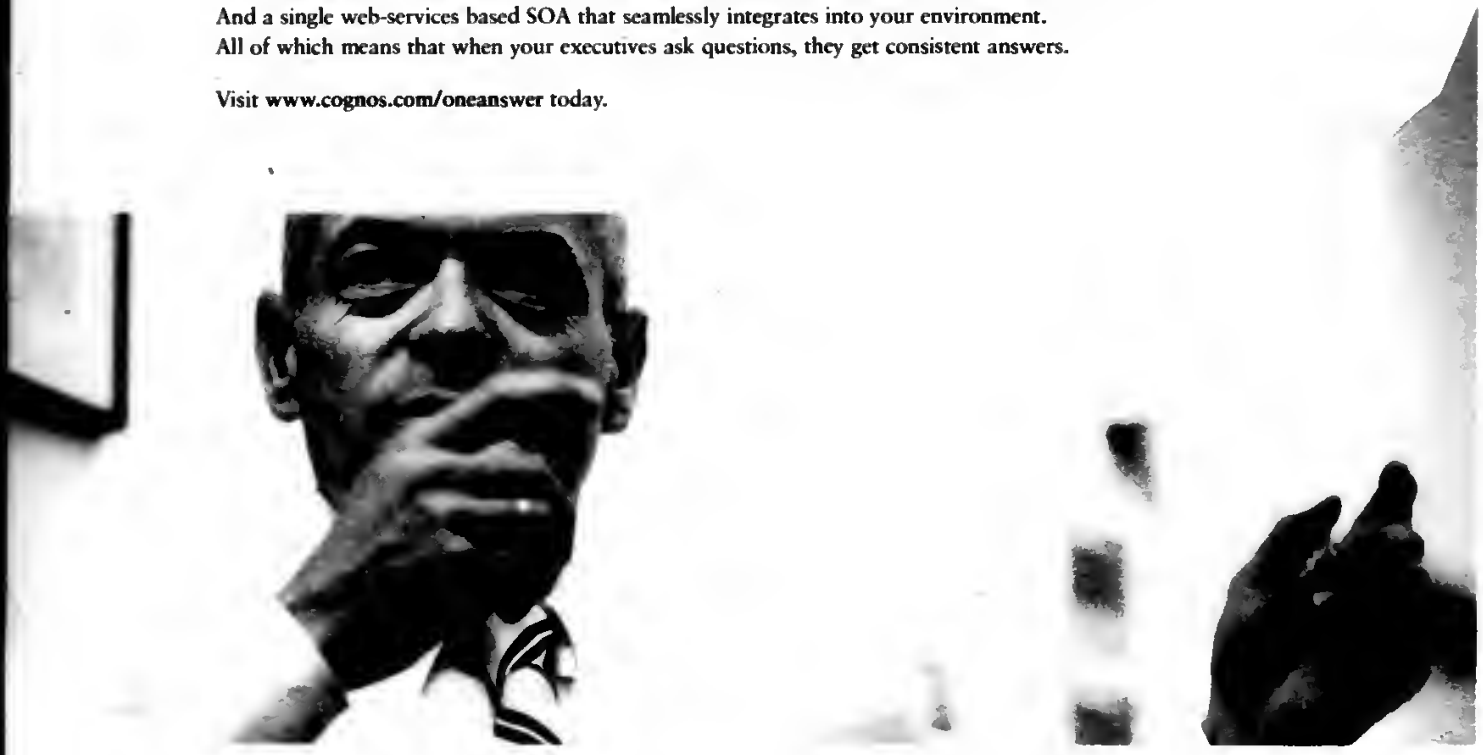

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Q&A

The Economics of Innovation

Michael Schrage, a research associate at the MIT Media Lab, talks about winning and losing innovation strategies, and he explains how combining certain techniques with IT can lead to hyper-innovation. **PAGE 38**

Career Watch

Gen Y is coming, and the workplace will never be the same, says Martha Lyons of Hewlett-Packard Services. Plus, CIOs are bullish about their businesses. And employers are stepping up retention efforts. **PAGE 39**

OPINION

Voice of the Customer

Many IT initiatives to improve customer service are missing one crucial component: the voice of the customer, says Naomi Karten. She suggests some ways to help that voice come through loud and clear. **PAGE 40**

IT CHAMELEON

Is the CTO an R&D boss, a senior technologist, an IT visionary or a business insider? It depends on where and when you find him. **BY MARY K. PRATT**

ROBERT WISEMAN and Sophie Vandebroek are both chief technology officers at Fortune 1,000 companies. But despite the common title, their jobs are quite different.

Wiseman, CTO at Sabre Holdings Corp., the Southlake, Texas, parent of several travel-related companies, handles the "bits and bytes of the technology" and reports to the CIO.

Vandebroek, CTO at Xerox Corp. in Stamford, Conn., oversees a team of 600 researchers, engineers and scientists responsible for developing products to sell to Xerox's customers. Although she doesn't report to the CIO, Vandebroek works with many CIOs from other companies to dream up innovations for the commercial market.

There's little ambiguity about the role of the CEO or the CFO at major companies, but ask what a CTO does, and you're likely to get a variety of responses. In some companies, the CTO heads research and development. In other companies, the CTO is just like a CIO. In still others, the CIO reports to the CTO. And there are also CTOs who work in IT departments and report to the CIO.

"The use of the label depends on the company, the industry and a lot on the individual. There's probably not any hard and fast rule on the title, but there are shades of color around it," says Brian LeClaire, CTO at Humana Inc., a health benefits company in Louisville, Ky.

IT AND MORE

Despite the diversity of approaches to the CTO role, this IT department executive is increasingly becoming the organization's senior technologist, responsible not only for overseeing current technology assets but, more important, for developing a technology vision for the business. And while the job remains firmly rooted in those bits and bytes, now more than ever CTOs are expected to have the business knowledge that ties that technology vision to company's mission, perfor-

mance and financial goals.

"It's not a simple job to understand all the technology out there," says Fred Dillman, global CTO at Unisys Corp., an IT consulting company in Blue Bell, Pa. "Today the pace of change is so much faster, and businesses are becoming more and more dependent on technology. So the CTO is being asked to be the real expert in technology and understand what technologies will affect the business in the future and help determine when and where to invest."

CTO STATS

Average salary: $134,671

Average bonus: $ 26,422

Total: $161,293

BASE: 14,740 IT workers

SOURCE: COMPUTERWORLD'S 20TH ANNUAL SALARY SURVEY MAY-JULY 2006

To be sure, CTOs have always been immersed in technology. But the use of the CTO title has shifted from one used almost exclusively for R&D-type executives, such as Vandebroek, to a designation for an organization's leading technologist, wherever he resides, says Roger Smith, CTO for the U.S. Army Program Executive Office for Simulation, Training and Instrumentation in Orlando.

DUAL PERSONALITY

Smith points to the dot-com boom, a time when many IT leaders started favoring the CTO moniker, as a key point in the position's evolution. In fact, back then many entrepreneurs who started high-tech firms called themselves CTOs — a trend that continues even today. "That's how it got the dual-use personality," says Smith, who has researched and written about the evolution of the CTO position.

The idea of the CTO as the leading techie only strengthened as time went on and the CIO job evolved, Smith says. "The CIO was initially a gearhead, technical guy who was in charge of putting all this IT in place," he explains. "But over time, IT became such an important part of the business that he got moved from the computer room to the executive suite. And once he moved there, he suddenly couldn't be the techie guy. He needed an assistant who could stay in the computer room, someone who could be in the middle of it and understand it."

And there's more to the evolution. Five or 10 years ago, those bits-and-bytes CTOs could often succeed solely by being the smartest techies in the room. Now, however, they need to know how to successfully play in both the technology space and the executive suite.

"One of the changes over the past couple of years is that the CTO is becoming much more responsible for the execution of the strategy as well as the definition of the strategy," Dillman says.

In addition to helping internal users with technologies to fulfill their existing and near-term needs, Dillman says, CTOs focus on bleeding-edge advances that could become part of the company's technology road map.

"The pace of technology is so fast today that the cost of failing is by far expensive, not only in dollars but in time, too," says Paul Groce, partner and head of the CIO practice at executive recruiting firm Christian & Timbers in New York. "So smart organizations are putting more emphasis on ensuring that they have smart people to ensure that the five-year road map is a good one."

CIO GAP FILLER

Given the duties of CTOs today, Groce, Dillman and others acknowledge that the lines that divide their job from that of the CIO are blurry. All the more reason the two executives must have a close relationship to successfully run an IT shop, they say.

But the CTO's seeming encroachment on what was once the CIO's turf also has a lot to do with the evolution of the chief information officer's job, says Phil Schneidermeyer, a partner in the CIO practice of Heidrick & Struggles International Inc., a senior-level executive search and leadership consulting firm in Chicago.

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"Today, many companies have management-oriented CIOs with technical experience in their backgrounds, but they've moved so close to the business that they haven't stayed current with technology on a day-to-day basis," says Schneidermeyer. "So to complement their business focus, CIOs need to have a technically focused chief technology officer who has a view for where technology is going."

Other differences remain between the CTO and the CIO roles, he says. CTOs generally manage smaller staffs. They're not expected to have the same line-management experience or budget responsibilities as the CIO, either.

That's not to say that CTOs can come to the job without any business skills. "You've got to make your company more efficient and profitable by the standards you put in place, the decisions you make," Wiseman says. "So it's increasingly important, but not necessarily common, to know the business. Otherwise, you're just prone to making bad decisions."

So just as companies have demanded increasingly business-savvy CIOs, they're beginning to look for CTOs who have not only a superior knowledge of technology, but also the ability to build strong teams and communicate effectively with all levels of the organization, Wiseman says.

This combination of technical and business skills is helping to elevate the stature of the CTO both within the IT shop and in the organization as a whole. That's one reason Roy Cashman chose the CTO title over that of CIO when he was hired nearly three years ago at Transplace Inc., a Plano, Texas-based company that provides technology and third-party logistics services.

Cashman, who recently moved into the chief operations officer job, oversaw internal IT operations and also developed technologies to market to external customers, but he felt the CTO title conveyed more technical authority to the external customers who pick Transplace for the IT expertise it can offer.

But even at companies where the IT department has both a CIO and a CTO, the best CTOs are seeing their stars rise. "In our company, there's a clear understanding of the value that technology adds to the company," LeClaire says. "That's what drives the seat at the table, not the title CIO or CTO."

Companies that value technology and understand its contribution to bottom-line results are the ones that emphasize the importance of the CTO as a leader within the IT department, says Mark Raskino, an analyst at Gartner Inc. And he sees that trend continuing.

"The IT-doesn't-matter perspective doesn't really fly anymore in the second wave of the Internet revolution," he says. "There is so much business innovation to be done at the moment that we can only see this role strengthen."

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The R&D CTO

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The R&D CTO

THE CTO TITLE HAS A DUAL PERSONALITY On the one hand, it describes a high-level technical position within an IT department or IT vendor firm. On the other, it's a title used for senior-level researchers.

It's no surprise that CTOs in IT departments work closely with CIOs, other IT managers and even rank-and-file tech workers. But the same is true for CTOs who work in research.

As CTO and president of the Innovation Group at Xerox, Sophie Vandebroek oversees about 600 chemists, engineers and material scientists who develop products and services to sell to customers. She turns to external CIOs for inspiration and ideas. She also collaborates with Xerox's own CIO to make sure that new products can be used by Xerox's customers and that those customers have the IT infrastructure to support the products.

Ray O. Johnson, CTO at Lockheed Martin Corp. in Bethesda, Md., sees a similar need for collaboration with the CIO at his company. "The CTO and the CIO work very closely together so our internal and external efforts are aligned," says Johnson, who is a peer to Lockheed Martin's CIO. The partnership between the two positions is becoming more and more important, he says, because IT is playing an increasingly critical role in research and innovations of all kinds.

MARY K. PRATT

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THE Economics OF Innovation

MIT's **Michael Schrage** talks about winning and losing strategies for getting more value from innovation.

"The single biggest mistake IT managers make is listening to their customers," says **Michael Schrage**, *a research associate at the MIT Media Lab.*

Wait, don't turn the page! Schrage can explain (and he does below).

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He has advised companies such as BP, Wells Fargo, Google, Microsoft, Mars and Cisco. His work explores the role of models, rapid prototyping and simulations as ways to help manage innovation and risk.

Q&A

Schrage says these techniques, when combined with technologies like the Internet, can lead to "hyperinnovation" in areas such as supply chain and customer relationship management. He recently told Computerworld's Gary Anthes about some winning and losing innovation strategies.

What's wrong with the way companies innovate today? There are too many organizations that believe that the value of innovation comes from the creation of choice — more features, more functions. When your cell phone company gives you more options, they claim they are being innovative. But that's rubbish. There may be supply, but where's the demand? Research shows that only a fraction of people use more then 20% of the cell phone's functionality. Same is true for PCs, servers, ERP and CRM systems — you name it. The unit of innovation is not choice, but value from use.

So companies should have simple products that do the basics very well? The question is, which [features] expand the value from use? A company like Amazon or Google may have interfaces that are so simple that adding more choice creates monumentally more value. For others, more choice just means more confusion, not more value.

How can IT help strike the right balance? It used to be that segmenting markets was very expensive. One of the fantastic things about the network economy is that we now have mass segmentation; segmentation is a marginal cost. Amazon and iTunes have recommendation engines that show you that people like you want *x*. Marketing 101 tells you to study your audience and segment it, but digital technology allows you to see how your audience segments itself.

It's something the traditional media least understand. They understand mass audiences, but they suck at exploiting digital technologies to create multiple segments.

Are there other companies that don't get it? Blockbuster is a company that was either unwilling or unable to effectively embrace the Web. Netflix took direct aim at one of the major flaws in the Blockbuster business model, which was to make a lot of money off late fees. Netflix branded itself as the no-late-fees company, and Blockbuster couldn't adapt because they had become addicted to late fees.

MICHAEL SCHRAGE

If value from use, not choice, is the measure of innovation, then use must be measured, right? The single biggest mistake IT managers make is listening to their customers instead of looking at how they actually interact with a system. Talk to an IT shop that runs a CRM or supply chain system, and ask them, "What are the three most-used functions? The least used? What's been the biggest change in usage over the past two years?" They won't know. They are too concerned with keeping it running.

So it comes down to, "Watch what we do, not what we say?" The best senior executives calibrate what people say with how they behave. Most organizations go out and build these requirements documents. It's a bunch of crap. They come up with 500 requirements, they build a system, and when people see it, they say, "That's what we asked for, but now that we've seen it, it's not really what we want." So you build prototypes, then you iterate around that. The reason you build prototypes is to observe how people behave.

The prototyping and iterating helps get you the right system, but should you continue to observe user behavior after that? Yes. Sometimes you'll see a dramatic drop-off in usage over time. What's happened is some department has built its own [system] — shadow IT. They are tired of using the IT shop.

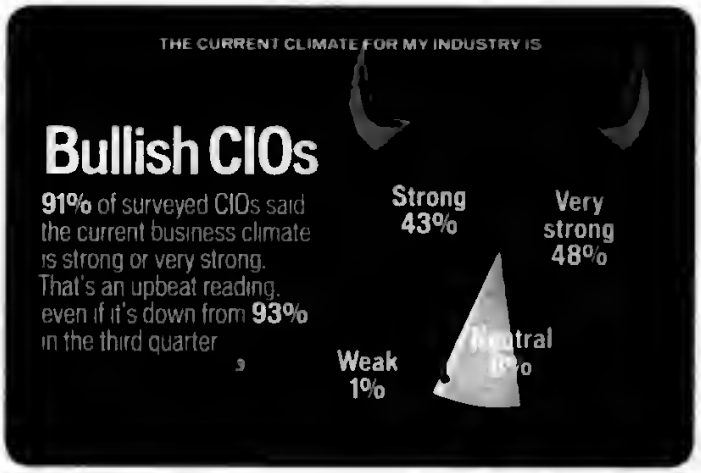
Why would they be tired of using the IT shop? You're a P&L manager. You go to IT for help, and IT says, "We can do that in six months, and here's what it will cost you." So you talk to your own people and they say, "We could do that on Salesforce.com and get 80% of the functionality for 15% of the cost, in under 60 days." What would you do?

Are these shadow apps such a bad thing? There's a major force threatening to kill shadow apps, even turn shadow apps into a crime. It's Sarbanes-Oxley. What Sarb-Ox insists on is that you make key business processes transparent and accessible. By definition, shadow apps are less transparent. I predict that there will be a division of a Fortune 500 company that triggers a regulatory investigation because it had undocumented apps running.

IT was all the rage in the late 1990s, but then the dot-com bubble burst and much of the allure of IT seems to have faded, at least in some quarters. Will the pendulum swing back in IT's favor? For people who really understand technology innovation and business model innovation, the pendulum never swung away. It was the lemmings and greed-heads that got caught up in the bubble. The fact is, there isn't a single company in finance, professional services, manufacturing, design or retail that hasn't been utterly transformed by their investments in IT.

So has the old bricks-vs.-clicks debate been settled in favor of clicks? The people who thought the rise of Amazon meant the decline of Wal-Mart were by definition idiotic. But the people who predicted that the rise of Netflix meant the demise of Blockbuster weren't so idiotic. What does that mean? That companies that are ready, willing and able to adapt can. So the shift has been from bricks vs. clicks to bricks and clicks. That negotiation is still going on, and as it does, IT can be more valuable, not less valuable. ▸

Career Watch



The Job Hunt

71%	Respondents who said they use online ads when looking for a job.
70.9%	Respondents who said they use newspaper ads when looking for a job.
40%	Respondents who attributed a job offer to an Internet search.
23.9%	Respondents who cited a newspaper ad as the source of employment.

SOURCE: CONFERENCE BOARD SURVEY OF 5,000 HOUSEHOLDS, NOVEMBER 2006

How is Generation Y going to change the workplace? Generation Y has grown up in an environment rich with technology and Internet tools – laptops, cell phones, IM, video consoles. This has bred an incredible agility and innate familiarity with technologies, and their experience with everything from multimedia to immersive learning has facilitated the creation of collaborative working behaviors.

Because of their comfort with technologies, Gen Yers expect a high level of empowerment in the workplace with respect to deciding how to work with and personalize their tools. They also expect the best technology for the task. They may be surprised at the lack of adoption of these tools in more entrenched companies and will be frustrated by rigid standardization and security requirements.

And Gen Yers, who are accustomed to working on open or "living" documents that support peer review and modification, will expect collaborative information flow, creation and dissemination in the workplace.

Will these changes merely result in nicer places to work, or will productivity improve as well? Organizations that embrace the collaborative environments that this new generation brings will employ immersive learning, portals with expressive content and rich collaborative environments to support exploratory design and investigation through corporate gaming types of simulations.

A number of trends indicate the growing need for this collaborative business model: geographically dispersed teams, high turnover, more frequent individual employee rotation within companies, a large retiring population of boomers in knowledge-intensive industries like pharma and oil and gas, along with second-career retirees entering the workforce. The companies that foster and support a faster, open and more collaborative workforce can see clear benefits, including greater creativity, employee mentoring and tacit knowledge exploitation, and faster results.

Will older workers resist these changes? How will the two generations resolve their differences? After all, Generation Y is badly outnumbered by the baby boomers, and they probably don't want to wait for all 80 million of them to retire. Not only do baby boomers lack the comfort with technology that the next generation has, but with their reliance on a more rigid, hierarchal working structure, they have limited familiarity with the collaborative work environments that Gen Y demands. Normally, you could anticipate an irreconcilable clash of working styles. However, because the baby boomers have been adopting, if slowly, technologies such as IM, and because Gen Y has grown up in a collaborative environment that is very respectful of the accomplishments and abilities of others, regardless of age or other differences, we can see a merging of the workstyles.

In fact, as the next generation enters the workforce in greater numbers, we will see them influence a blending and shift in behaviors from their older colleagues. At the same time, the more experienced workforce will bring their knowledge around process, professionalism and structure to an increasingly chaotic work environment. As long as the management layer is supportive of this transition, the melding of the cultures will actually result in the best environment for the changing workplace. And as the pace of business continues to accelerate, adaptive corporations that address these change management issues proactively will be the biggest winners.

PAGE COMPILED BY JAMIE ECKLE

Workers: Onward and Upward

Many human resources professionals say they're stepping up retention efforts, and that might be a good idea, since at least one poll shows that three quarters of employees could be looking for jobs. Those findings come from a study that the Society for Human Resource Management (SHRM) conducted with *The Wall Street Journal*'s CareerJournal.com Web site. More than 75% of respondents to a poll at CareerJournal.com said they're looking for jobs, and 49% of SHRM members responding to a separate poll said their organizations had implemented special retention processes (up from 35% in 2004). The HR pros said that the most effective worker-retention strategies are promoting qualified employees, offering competitive merit increases/salary adjustments and providing career development opportunities.

Says Susan R. Meisinger, president and CEO of the SHRM, "Compensation alone is not sufficient. Career development opportunities and work/life balance are also important, and employers must consider these types of benefits in their retention practices if they want to maintain or increase retention at their organizations."

Greener Pastures

Top reasons cited for employee resignations by employee and HR respondents.

	Employees	HR professionals
Better compensation elsewhere	30%	40%
Career opportunity elsewhere	27%	48%
Dissatisfaction with potential for career development	21%	29%

SOURCE: U.S. JOB RETENTION POLL OF 462 WORKERS WHO VISITED THE CAREERJOURNAL.COM WEB SITE AND 367 RANDOMLY SELECTED MEMBERS OF THE SHRM, DECEMBER 2006

Economics of Innovation

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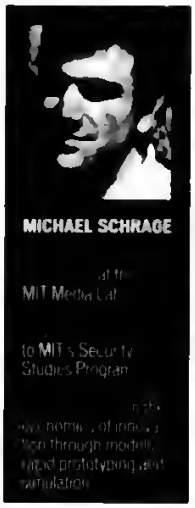


If value from use, not choice, is the measure of innovation, then use must be measured, right? The single biggest mistake IT managers make is listening to their customers instead of looking at how they actually interact with a system. Talk to an IT shop that runs a CRM or supply chain system, and ask them, "What are the three most-used functions? The least used? What's been the biggest change in usage over the past two years?" They won't know. They are too concerned with keeping it running.

So it comes down to, "Watch what we do, not what we say?" The best senior executives calibrate what people say with how they behave. Most organizations go out and build these requirements documents. It's a bunch of crap. They come up with 500 requirements, they build a system, and when people see it, they say, "That's what we asked for, but now that we've seen it, it's not really what we want." So you build prototypes, then you iterate around that. The reason you build prototypes is to observe how people behave.

The prototyping and iterating helps get you the right system, but should you continue to observe user behavior after that? Yes. Sometimes you'll see a dramatic drop-off in usage over time. What's happened is some department has built its own [system] — shadow IT. They are tired of using the IT shop.

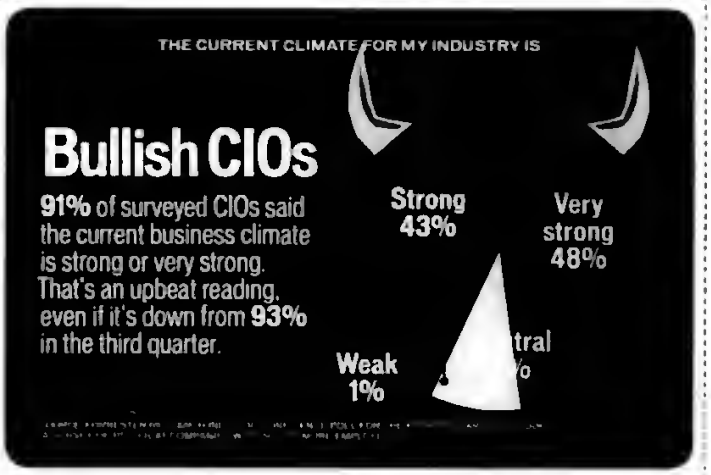
Why would they be tired of using the IT shop? You're a P&L manager. You go to IT for help, and IT says, "We can do that in six months, and here's what it will cost you." So you talk to your own people and they say, "We could do that on Salesforce.com and get 80% of the functionality for 15% of the cost, in under 60 days." What would you do?

Are these shadow apps such a bad thing? There's a major force threatening to kill shadow apps, even turn shadow apps into a crime. It's Sarbanes-Oxley. What Sarb-Ox insists on is that you make key business processes transparent and accessible. By definition, shadow apps are less transparent. I predict that there will be a division of a Fortune 500 company that triggers a regulatory investigation because it had undocumented apps running.

IT was all the rage in the late 1990s, but then the dot-com bubble burst and much of the allure of IT seems to have faded, at least in some quarters. Will the pendulum swing back in IT's favor? For people who really understand technology innovation and business model innovation, the pendulum never swung away. It was the lemmings and greed-heads that got caught up in the bubble. The fact is, there isn't a single company in finance, professional services, manufacturing, design or retail that hasn't been utterly transformed by their investments in IT.

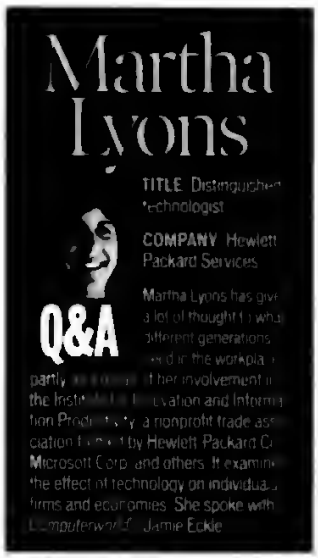
So has the old bricks-vs.-clicks debate been settled in favor of clicks? The people who thought the rise of Amazon meant the decline of Wal-Mart were by definition idiotic. But the people who predicted that the rise of Netflix meant the demise of Blockbuster weren't so idiotic. What does that mean? That companies that are ready, willing and able to adapt can. So the shift has been from bricks vs. clicks to bricks and clicks. That negotiation is still going on, and as it does, IT can be more valuable, not less valuable. ▶

Career Watch



The Job Hunt

71%	Respondents who said they use online ads when looking for a job
70.9%	Respondents who said they use newspaper ads when looking for a job.
40%	Respondents who attributed a job offer to an Internet search
23.9%	Respondents who cited a newspaper ad as the source of employment



Martha Lyons has given a lot of thought to what different generations need in the workplace partly because of her involvement in the Institute for Innovation and Information Productivity, a nonprofit trade association founded by Hewlett-Packard Co., Microsoft Corp. and others. It examines the effect of technology on individuals, firms and economies. She spoke with Computerworld's Jamie Eckle.

How is Generation Y going to change the workplace? Generation Y has grown up in an environment rich with technology and Internet tools – laptops, cell phones, IM, video consoles. This has bred an incredible agility and innate familiarity with technologies, and their experience with everything from multimedia to immersive learning has facilitated the creation of collaborative working behaviors.

Because of their comfort with technologies, Gen Yers expect a high level of empowerment in the workplace with respect to deciding how to work with and personalize their tools. They also expect the best technology for the task. They may be surprised at the lack of adoption of these tools in more entrenched companies and will be frustrated by rigid standardization and security requirements.

And Gen Yers, who are accustomed to working on open or "living" documents that support peer review and modification, will expect collaborative information flow, creation and dissemination in the workplace.

Will these changes merely result in nicer places to work, or will productivity improve as well? Organizations that embrace the collaborative environments that this new generation brings will employ immersive learning portals with expressive content and rich collaborative environments to support exploratory design and investigation through corporate gaming types of simulations.

A number of trends indicate the growing need for this collaborative business model: geographically dispersed teams, high turnover, more frequent individual employee rotation within companies, a large retiring population of boomers in knowledge-intensive industries like pharma and oil and gas, along with second-career retirees entering the workforce. The companies that foster and support a faster, open and more collaborative workforce can see clear benefits, including greater creativity, employee mentoring and tacit knowledge exploration, and faster results.

Will older workers resist these changes? How will the two generations resolve their differences? After all, Generation Y is badly outnumbered by the baby boomers, and they probably don't want to wait for all 80 million of them to retire. Not only do baby boomers lack the comfort with technology that the next generation has, but with their reliance on a more rigid, hierarchal working structure, they have limited familiarity with the collaborative work environments that Gen Y demands. Normally, you could anticipate an irreconcilable clash of working styles. However, because the baby boomers have been adopting, if slowly, technologies such as IM and because Gen Y has grown up in a collaborative environment that is very respectful of the accomplishments and abilities of others, regardless of age or other differences, we can see a merging of the workstyles.

In fact, as the next generation enters the workforce in greater numbers, we will see them influence a blending and shift in behaviors from their older colleagues. At the same time, the more experienced workforce will bring their knowledge around process, professionalism and structure to an increasingly chaotic work environment. As long as the management layer is supportive of this transition, the melding of the cultures will actually result in the best environment for the changing workplace. And as the pace of business continues to accelerate, adaptive corporations that address these change management issues proactively will be the biggest winners.

PAGE COMPILED BY JAMIE ECKLE

Workers: Onward and Upward

Many human resources professionals say they're stepping up retention efforts, and that might be a good idea, since at least one poll shows that three quarters of employees could be looking for jobs. Those findings come from a study that the Society for Human Resource Management (SHRM) conducted with *The Wall Street Journal*'s *CareerJournal.com* Web site. More than 75% of respondents to a poll at *CareerJournal.com* said they're looking for jobs, and 49% of SHRM members responding to a separate poll said their organizations had implemented special retention processes (up from 35% in 2004). The HR pros said that the most effective worker-retention strategies are promoting qualified employees, offering competitive merit increases/salary adjustments and providing career development opportunities.

Says Susan R. Meisinger, president and CEO of the SHRM, "Compensation alone is not sufficient. Career development opportunities and work/life balance are also important, and employers must consider these types of benefits in their retention practices if they want to maintain or increase retention at their organizations."

Greener Pastures

Top reasons cited for employee resignations by employee and HR respondents

	Employees	HR professionals
Better compensation elsewhere	30%	40%
Career opportunity elsewhere	27%	48%
Dissatisfaction with potential for career development	21%	29%

SOURCE: [illegible] AND WORKING [illegible] CONDUCTED ON BEHALF OF [illegible] AND SHRM [illegible] RELEASED IN THE SPRING OF 2006

EXEC TRACK

McDermott Tapped To Lead IT at Xerox

JOHN McDERMOTT has been named CIO at Xerox Corp. Previously, he was vice president of corporate strategy and alliances at the Stamford, Conn.-based company. McDermott joined Xerox in 2002 as head of strategy. He replaces Patricia Cusick, who retired last year.

Locatis Named Colorado CIO

Colorado Governor-elect Bill Ritter has appointed MICHAEL LOCATIS as the state's CIO. Locatis had served since 2004 as the city of Denver's first CIO. Before joining the city, he was senior director of enterprise technology strategy at Time Warner Inc.

Thandri Joins Mentor Graphics as CIO

ANANTHAN THANDRI has been appointed CIO at Mentor Graphics Corp., a Wilsonville, Ore.-based maker of hardware and software for the electronics and semiconductor industries. Previously, Thandri was vice president for IT in the server technologies division at Oracle Corp.

Clayton Holdings Chooses IT Chief

JOHN P. COURTNEY has been named CIO at Shelton, Conn.-based Clayton Holdings Inc., a provider of analytics, consulting and outsourcing services to financial services companies. Previously, Courtney was vice president of product development and management at Intuit Inc. Before that, he was CTO and co-founder of EmployeeMatters, which was acquired by Intuit.

Fla. Staffing Firm Picks Interim CIO

Vice President of IT Services JOEL STEIGELFEST has been named interim CIO at Spherion Corp., a staffing and recruiting company in Fort Lauderdale, Fla. He replaces CIO William Halnon, who is leaving to pursue other opportunities.

NAOMI KARTEN

Voice of the Customer

UNBELIEVABLE, BUT TRUE: While attending an IT management meeting at one of my client companies, I learned about a major initiative in progress to find ways to deliver better service to IT customers. Management had named the initiative Voice of the Customer, a label that appeared in status reports, on wall charts and in presentation slides.

"How many customers are participating in this effort?" I asked.

"None," the CIO told me.

"Well, then, how many customers will become involved at some later point?" I asked.

"Oh," he said with an absolutely straight face, "we hadn't planned on involving them."

Voice of the customer?

Alas, this was just one of many instances I've encountered in which IT organizations have omitted customers from conversations that have a direct bearing on IT's success in working with those very customers.

NAOMI KARTEN (www.nkarten.com) is author of *Communication Gaps and How to Close Them* (Dorset House, 2002). She helps organizations improve customer satisfaction, manage change and strengthen teamwork. Contact her at naomi@nkarten.com.

At another company, an IT director asked me to facilitate some discussions to help her department improve its service strategies. Department members had already done some energetic brainstorming and had come up with several possibilities, and they were pleased with their momentum.

Certain that customers would have strong opinions about changes that would affect them, I urged the director to invite some of them to participate in the discussions. She agreed and lined up customers from several business units to join in.

What a difference! This time, the IT staff sat in near silence as the customers cited one frustration after another that they'd experienced as service recipients. One such frustration, typical of many others: "If you can't get the job done when you said you would, please, please, let me know before the time is up."

Indeed, many of the complaints concerned not the work being done for these customers, but the way the IT staff communicated (or failed to communicate) with them.

In the debriefing session after the customers had departed, I asked the IT employees what they had learned. One person captured the reaction of the rest of the staff in saying, "I now see that there are things that are important to customers that we never even considered before. We need to totally rethink our service strategies with what we now know."

Fortunately, many IT organizations do recognize that a crucial key to successfully serving and supporting customers is to gain an understanding of the customers' perspective.

> **A crucial key to successfully serving and supporting customers is to gain an understanding of the customers' perspective.**

For example, one IT group I worked with decided to seek feedback about its customers' satisfaction with IT services. But instead of relying on long, boring surveys, the group invited customers from several divisions to collaborate in gathering feedback from their own people.

They formed two-person teams, each with one IT person and one customer who jointly interviewed members of that customer's division. The result: The IT group gained a vastly improved understanding of what was working well and what needed attention — from its customers' perspective.

The manager of another IT team, disturbed by an increasingly adversarial relationship with its customers, arranged a talk-it-out meeting with them. In short order, the team learned of several instances in which each had misunderstood the other's intentions and perceived ill intent where there was none.

The success of the meeting led to a quarterly session devoted to discussing anything that baffled, confused or troubled either party about the other. Interestingly, the very existence of these meetings led to better communication overall and more amicable and timely conflict resolution.

In a third example, an IT manager asked me to help his staff build a strong relationship with a business unit that had become its customer following a major reorganization.

Through a series of discussions and activities — some serious, some lighthearted — IT staffers came to know these customers. They learned about their individual personalities, their priorities and pressing concerns, and their questions about IT in a way they wouldn't have if they'd immediately focused their attention only on the customers' systems needs.

In only two days, the IT and customer personnel built a foundation for a strong relationship. A year later, the manager reported that the foundation remained strong.

All IT groups have it within themselves to do the same, provided they're willing to listen to the voice of the customer.

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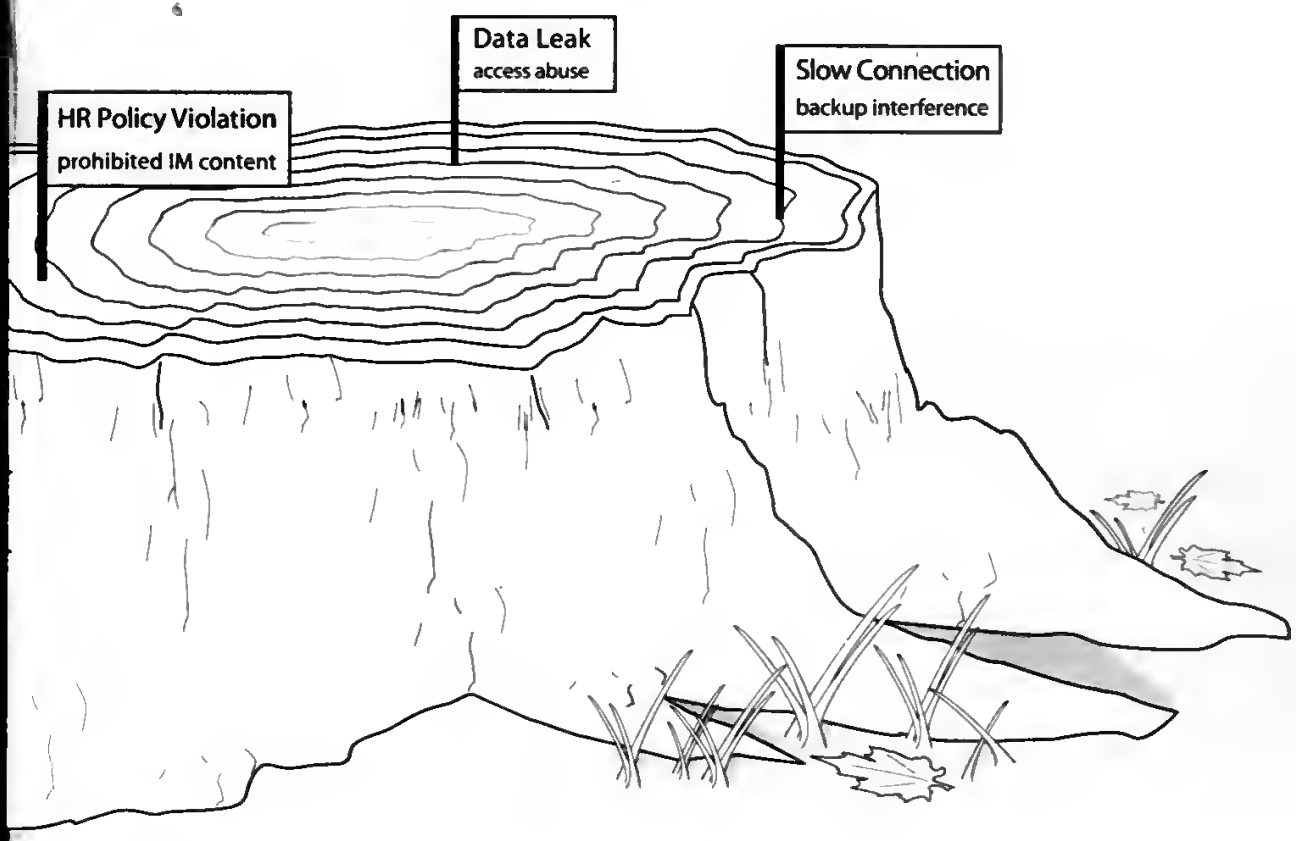

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TJX Breach

their discretion. Retailers are forbidden from storing such information under the Payment Card Industry (PCI) Data Security Standard being pushed by Visa, MasterCard International Inc. and other credit card companies. But many retailers continue to do so, often because their point-of-sale systems capture and store the data by default.

Further Protections

The breach at TJX shows why it's so vital to purge the Track 2 data from systems, said David Taylor, vice president of data security strategies at Protegrity Corp., a Stamford, Conn.-based company that offers PCI compliance services. It also underscores the importance of encrypting sensitive data, another step that the PCI standard requires, Taylor said.

The latest incident is sure to lend even more urgency to efforts to get retailers to adopt the PCI requirements, said Avivah Litan, an analyst at Gartner Inc. Litan said that thus far, only about 50% of Tier 1 merchants — those processing more than 6 million credit card transactions per month — have become fully compliant with PCI, which went into effect 18 months ago.

TJX is a Tier 1 merchant and may even qualify as a card processor because of the sheer number of transactions it handles through its various retail chains, Litan said. That would require it to adhere to even more stringent security requirements, she said, adding that she expects credit card companies "to come down really hard" on TJX.

At the same time, banks that issue cards should be looking at ways to make card information less valuable to thieves, Litan said. For example, stronger forms of authentication could be used when transactions are being processed, she said. Another possible approach would be to require one-time passwords when credit and debit cards are used.

The technology needed to support both of those steps is available and can be implemented fairly easily, according to Litan. But few banks appear to be doing so, she added.

The case for adopting such measures is strengthened by the fact that fraudsters are able to distribute stolen card information and make use of the data quickly, Litan and other analysts said.

According to John Buzzard, a fraud investigator at Fair Isaac Corp. in Minneapolis, information stolen in data breaches is sometimes used within 24 hours. Typically, data thieves do a quick "dump check" to see if stolen card numbers are valid and then either sell them for up to $25 apiece or use them to make one or two significant purchases or cash withdrawals, Buzzard said.

To reduce such fraud, he said, card issuers should establish measures for verifying that names, card numbers, expiration dates and other data match the information on record when transactions are being processed. Buzzard said he thinks "a large percentage" of card issuers are doing that kind of authentication already — but not all of them.

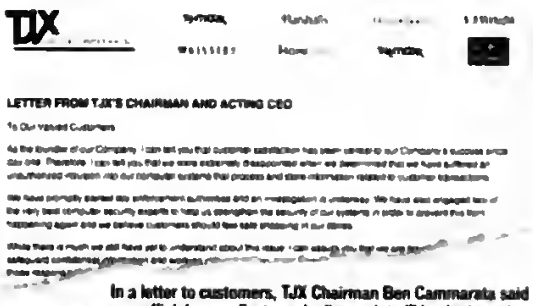
Stronger end-to-end authentication of credit and debit transactions by issuing banks could reduce the risk of card fraud, Taylor said. "But one of the things that is worth emphasizing," he added, "is that the customer data belongs to the merchants and they need to take responsibility for it."

Ben Cammarata, TJX's chairman and acting CEO, said in a letter to customers that company officials were "extremely disappointed" when the intrusion was discovered. He added that TJX has brought in IBM and General Dynamics "to help us strengthen the security of our systems in order to prevent this from happening again."

Breach Reaction

TJX says it has done the following:

- Identified "a limited number" of credit and debit card holders whose data was removed from its systems.
- Identified "a relatively small number" of customers whose driver's license numbers were taken.
- Reported the breach to the U.S. Department of Justice and Secret Service, and the Royal Canadian Mounted Police.
- Set up toll-free phone lines for customers in the U.S., Canada, the U.K. and Ireland.



LETTER FROM TJX'S CHAIRMAN AND ACTING CEO

To Our Valued Customers

In a letter to customers, TJX Chairman Ben Cammarata said company officials were "extremely disappointed" by the intrusion.

Microsoft, Nortel Set Plans for Communications Bundles

BY MATT HAMBLEN
NEW YORK

Microsoft Corp. and Nortel Networks Ltd. last week announced a road map for delivering jointly developed product bundles that combine e-mail, instant messaging, telephony and other communications technologies.

But at a press conference here, Microsoft CEO Steve Ballmer and Nortel CEO Mike Zafirovski acknowledged that they face an uphill battle to get corporate users to understand the potential value of the unified communications offerings. With that in mind, Microsoft and Nortel are launching a marketing and education initiative that will include setting up 100 demonstration centers this year, in addition to 20 that have already been opened.

The road map, laid out by the two vendors as part of a development and marketing alliance set up last July, includes several offerings that are scheduled to be rolled out later this year. For example, they plan to deliver an "integrated branch" appliance that incorporates both Nortel and Microsoft technology to provide voice-over-IP and other communications capabilities for remote offices.

Microsoft and Nortel also said they will bring out conferencing and unified messaging bundles that combine their respective products. In addition, they plan to extend an existing package offering VoIP, e-mail, instant messaging and user-presence capabilities to Nortel's Communication Server 2100, a carrier-grade telephony device that can support up to 200,000 users.

Improved Collaboration

Johan Krebbers, an IT architect at Royal Dutch Shell PLC, appeared at the press conference to describe his company's early efforts to link Microsoft and Nortel technologies for its global workforce of 112,000 employees. Over the past year, Shell has rolled out about 2,000 Nortel phones that work with Microsoft's Office Communicator client software, Krebbers said after the meeting.

To Krebbers, the promises of unified communications are compelling. "You're really giving people far better collaboration capability," he said. "We know it makes people more productive." For example, workers in one part of the world may not have to wait hours to reach a colleague in another region, Krebbers noted.

Todd Schofield, chief technology officer at International SOS Pte., said that within the next two weeks, he plans to link a Nortel phone switch to Microsoft's Live Communications Server 2005 software at his company's Singapore headquarters to improve internal communications capabilities for the 500 workers there.

International SOS offers medical assistance and physical security services to businesses worldwide. In all, it has about 4,500 workers in 65 countries who could benefit from better collaboration technologies, Schofield said.

But Schofield noted that he still has work to do to convince business managers of the value of unified communications. For that reason, he plans to move slowly on the new technologies in order to keep costs relatively low.

Ballmer said that eventually, Microsoft Office will be so tightly linked with communications products that an Excel user will be able to send messages from inside a spreadsheet without having to launch a messaging application.

CANADIAN POSTMASTER: POSTMASTER:

FRANK HAYES ■ FRANKLY SPEAKING

Platform Dreams

SALESFORCE.COM wants to be the next Internet. No, that's not the way the company describes its plans. But a year ago, Salesforce rolled out AppExchange, a Web site for on-demand applications built by other vendors but running on top of Salesforce's own software. Last week, the company launched a preview version of Apex Code, a Java-like language for building those apps. Salesforce executives say they want Salesforce to be a platform, not just a software-as-a-service product.

How serious are they about this? Serious enough to cannibalize Salesforce's own hosted applications business. If someone else builds a better Salesforce on top of the Salesforce platform, that'll be fine — or so the company says.

That's a little tough to believe. IBM wasn't willing to do that when its mainframes ruled the IT landscape. Microsoft makes sure its own Windows applicatiuns always have an advantage over those of other vendors.

There's lots of money in applications. That's how Salesforce has built everything it has. Why would Salesforce risk a profitable and growing business just to turn itself into a platform and let others make muney with it? Why would Salesforce do anything differently from IBM and Microsoft?

It makes no sense — at least not without the Internet.

See, in the mainframe world, you leased everything — hardware and software, from the infrastructure on up to the applications (which you leased or built). So IBM wanted to lease you as much of that stack as possible.

In the PC world, you buy everything — hardware and software, from the infrastructure on up through the apps. So Microsoft wants to sell you as much of that stack as possible.

But in the Internet world, you don't buy or lease the infrastructure. Sumebody else owns and runs that. And somebody else owns and runs most of the software in the middle, whether that means Salesforce, eBay or a Web-hosting Internet service provider.

You can buy a piece of that infrastructure and run your own Web servers and online applications. But however much you buy, it'll only be the tip of the Internet iceberg. Nobody owns the whole stack. In fact, you can get by with owning just the tiniest sliver, only the part that's unique to your business, and leasing the rest — most of it indirectly.

FRANK HAYES, Computerworld's senior news columnist, has covered IT for more than 20 years. Contact him at frank_hayes@computerworld.com.

And the money? You pay at the tup, and it trickles down to everyone who owns a piece of the Internet stack.

That's Salesforce's dream. Salesforce figures if it can build a broad enough platform, with enough on-demand software providers stacked up on it, then lots of that money will trickle duwn to it from end-user customers that Salesforce never acquires, never sees, never has to fight for. And Salesforce will collect revenue every time those indirect customers use someone else's application built on the Salesforce platform.

So in theory, Salesforce doesn't need the IBM or Microsoft own-the-stack model.

In practice? Well, revenue is revenue. Ultimately, Salesforce isn't likely to walk away from that lucrative CRM money.

But Salesforce's platform dream still matters. Why? Not because the world needs more CRM, but because of all the interesting on-demand application ideas that would never see the light of day if they couldn't be piggybacked on Salesfurce's platform — ideas Salesfurce would never come up with but might help along if the Salesforce platform makes the required sliver small enough.

Most of them may be junk, or at least useless to you. Some of them may show some value. One or two might even fundamentally change the way you do IT.

That's makes Salesfurce a lot more valuable to corporate IT as a platform — and as an idea incubator — than as an application.

No, Salesforce won't become the next Internet.

But the closer it gets to that model, the more useful it will be for the rest of us.

That's Just So, So Wrong

This remote laptop user is having network problems, so support pilot fish starts troubleshooting. Is your network adapter built-in or a PC card? fish asks. "PC card," user says. What type? "It just says Dell." Fish walks user through reseating the PC card and even swapping it for her neighbor's, with no success. Finally he asks for her laptop's service tag number and looks it up – and learns the laptop should have a built-in adapter. "I finally ask her to search the PC card for a part number," says fish. "She tells me '0120C.' A quick search confirms that's Dell's part number for a PC card slot plastic filler."

SHARK TANK

Eh?

Help desk gets a request: "This is not high priority, but either the speakers on my computer do not seem to be working or my hearing is getting bad. I have it turned all the way up as far as I can tell. Thanks." Sighs pilot fish, "Our support staff will be able to fix a problem with the speakers, but if it was my hearing and I thought it was going, I think it would be ranked up there as a high-priority request myself."

Not My Fault

Passwords are a problem for this user – he's forever asking to have them reset. This pilot fish finally begs him to *please* remember his password and to write it down in a safe place so he won't lose it. "His answer to me was that he was tired of requesting password resets too," says fish. "He said that the system was at fault for forgetting his password. He was 100% sure the system kept forgetting the password, not him."

Precision Mailing

Company upgrades an application that key clients use, and that will require an upgrade on the clients' PCs, too. This pilot fish is sending out CDs with instructions and calls to tell the tech contact for one client that the upgrade is on its way. "I told her I was putting a CD in the mail and she could expect to see it Saturday or Monday," reports fish. "She said, 'Can you make it Monday? We're closed on Saturdays.' "

Got Paper?

User calls IT pilot fish, asking for a list of employees and their departments so she can send the annual Christmas hams. "Just put the list in interoffice mail," she tells fish. Can't I just e-mail the list to you? fish asks. User: "No, I need it on paper so I can make copies."

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